

Background Noise Measurement

- 5.25 As discussed in **Table 5.4**, the sensitive receivers, located in well developed urban areas of western side of Kowloon, Kwai Chung and Lai Chi Kok, were affected by the road traffic noise and operational noise from industrial uses, in addition to site observations, the prevailing background noise levels would unlikely be lower than the ANL-5dB(A) criterion.
- 5.26 In the quieter rural areas of Wo Shang Wai, Ngau Tam Mei, Tai Kong Po, Shek Kong, Pat Heung and Shing Mun, background noise measurements have been conducted for the determination of noise criteria at the identified NSRs.
- 5.27 Continuous free-field noise measurements were conducted in November and December 2008 to investigate the prevailing noise levels in rural areas. The measurement locations are presented in **Figure Nos. NOL/ERL/300/C/XRL/ENS/M52/100 - 106**. Noise measurements were conducted according to the operation period of the facilities, and therefore the noise results are considered to be representative to the background noise at sensitive receivers.
- 5.28 The noise measurements were conducted using B&K Type 2238 Sound Level Meter (Type 1) and were calibrated using B&K Sound Level Calibrator Type 4231 with a calibration signal of 94.0 dB(A) at 1kHz. The measurements were conducted with reference to the calibration and measurement procedures as stated in the IND-TM. A summary of background noise measurement results is given in **Table 5.8**.

Table 5.8 Background Noise Measurement Results

Measurement Location	Measurement Period	Prevailing Measured Noise Level*, L _{eq, 30min} , dB(A) [1]			ASR	ANL-5, dB(A) [2]	Operational Noise Assessment Criteria, dB(A) Min. of [1] & [2]	Corresponding NSR
		Min.	Max.	Avg.				
M1 (Wo Shang Wai)	Daytime (1400-1800)	68	70	69	B	60	60	-
	Night-time (2300-0200)	62	67	64		50	50	
M2 (Wo Shang Wai)	Daytime (1400-1800)	51	61	57	A	55	51	MP1, MP5, MP6
	Night-time (2300-0200)	49	53	51		45	45	
M3** (Ngau Tam Mei)	Daytime (1400-1800)	59	72	65	A	55	55	NT1 & NT4
	Night-time (2330-0300)	44	59	53		45	44	
M4 (Tai Kong Po)	Daytime (1400-1800)	52	61	56	A	55	52	TP1
	Night-time (2330-0300)	47	57	52		45	45	
M5 (Shek Kong)	Daytime (0700-1200)	49	75	66	B	60	49	SS2 & SS4
	Night-time (2330-0200)	39	50	42		50	39	
M6 (Shek Kong)	Daytime (0700-1200)	52	67	60	B	60	52	SS5, SS6
	Night-time (0000-0330)	45	51	47		50	45	
M7 (Shek Kong)	Daytime (0700-1200)	49	62	57	B	60	49	SS7, SS10, SS12, SS14, SS15
	Night-time (0100-0400)	47	51	49		50	47	
M8 (Shek Kong)	Daytime (0700-1200)	52	70	64	B	60	52	SS11a
	Night-time (2330-0700)	50	52	51		50	50	

Table 5.21 Maximum Sound Power Levels of Ventilation Buildings

Source ID	Plant item	Direction Facing	Maximum SWL during daytime, dB(A)	Maximum SWL during night-time, dB(A)
Mai Po Ventilation Building (MPV)				
MPV	Ventilation Shaft	North Elevation 1	85	80
		North Elevation 2	85	79
		East Elevation 1	85	79
		East Elevation 2	85	79
		South Elevation 1	90	85
		South Elevation 2	91	85
		South Elevation 3	93	85
		West Elevation 1	88	84
		West Elevation 2	88	84
Ngau Tam Mei Ventilation Building (NTV)				
NTV	Ventilation Shaft	North Elevation 1	84	73
		North Elevation 2	84	73
		North Elevation 3	83	72
		North Elevation 4	83	72
		North Elevation 5	83	72
		East Elevation 1	85	74
		East Elevation 2	85	74
		East Elevation 3	87	76
		South Elevation 1	84	73
		South Elevation 2	84	73
		South Elevation 3	85	74
		South Elevation 4	87	76
		South Elevation 5	87	76
		West Elevation 1	87	76
		West Elevation 2	87	76
		West Elevation 3	87	76
ERS Northern End Ventilation Building (ENV)				
ENV	Ventilation Shaft	North Elevation	93	91
		East Elevation	92	90
		South Elevation	95	93
		West Elevation	95	93
ERS Southern End Ventilation Building (ESV)				
ESV	Ventilation Shaft	North Elevation	98	95
		East Elevation	100	93
		South Elevation	99	93
		West Elevation	99	93
Pat Heung Ventilation Building (PHV)				
PHV	Ventilation Shaft	North Elevation 1	91	85
		North Elevation 2	91	85
		North Elevation 3	91	85
		East Elevation 1	86	80
		East Elevation 2	84	78
		East Elevation 3	83	77
		South Elevation 1	81	75
		South Elevation 2	81	75
		South Elevation 3	82	76

Appendix 5.6
Daytime Fixed Plant Noise Impact Assessment

NSR No.	Description	Plant item	Direction Facing	Distance , m	SWL, dB(A)	Correction for line of sight ⁽¹⁾ , dB(A)	SPL, dB(A)	Total SPL, dB(A)	Daytime Noise Criteria, dB(A)
Mai Po Ventilation Building (MPV)									
MP1	House 5 Phase A Royal Palms	Ventilation Shaft	North Elevation 1	134	85	10	27		
			North Elevation 2	141	85	10	27		
			East Elevation 1	145	85	10	27		
			East Elevation 2	136	85	10	27		
			South Elevation 1	130	90	0	43		
			South Elevation 2	123	91	0	44		
			South Elevation 3	121	93	0	46		
			West Elevation 1	123	88	0	41		
			West Elevation 2	130	88	0	41	51	51
MP5	Proposed Comprehensive Development at Wo Shang Wai	Ventilation Shaft	North Elevation 1	101	85	5	35		
			North Elevation 2	116	85	5	34		
			East Elevation 1	125	85	10	28		
			East Elevation 2	125	85	10	28		
			South Elevation 1	119	90	5	39		
			South Elevation 2	108	91	5	40		
			South Elevation 3	97	93	5	43		
			West Elevation 1	92	88	0	44	50	51
			West Elevation 2	92	88	0	44		
MP6	Planned village house at Village Zone	Ventilation Shaft	North Elevation 1	88	85	0	41		
			North Elevation 2	73	85	0	43		
			East Elevation 1	66	85	0	44		
			East Elevation 2	68	85	0	43		
			South Elevation 1	75	90	5	43		
			South Elevation 2	86	91	5	42		
			South Elevation 3	95	93	5	43		
			West Elevation 1	99	88	10	33		
			West Elevation 2	97	88	10	33	51	51
Ngau Tam Mei Ventilation Building (NTV)									
NT1	Yau Tam Mei Village House	Ventilation Shaft	North Elevation 1	64	84	0	43		
			North Elevation 2	64	84	0	43		
			North Elevation 3	64	83	0	42		
			North Elevation 4	70	83	0	41		
			North Elevation 5	82	83	0	40		
			East Elevation 1	85	85	10	31		
			East Elevation 2	85	85	10	31		
			East Elevation 3	85	87	10	33		
			South Elevation 1	100	84	10	29		
			South Elevation 2	100	84	10	29		
			South Elevation 3	103	85	10	30		
			South Elevation 4	12	87	10	50		
			South Elevation 5	127	87	10	30		
			West Elevation 1	100	87	10	32		
			West Elevation 2	118	87	10	31		
			West Elevation 3	130	87	10	30	53	55
NT4	Yau Tam Mei Village House	Ventilation Shaft	North Elevation 1	88	84	10	30		
			North Elevation 2	97	84	10	29		
			North Elevation 3	112	83	10	27		
			North Elevation 4	130	83	10	26		
			North Elevation 5	152	83	10	24		
			East Elevation 1	85	85	0	41		
			East Elevation 2	85	85	0	41		
			East Elevation 3	85	87	0	43		
			South Elevation 1	88	84	5	35		
			South Elevation 2	97	84	5	34		
			South Elevation 3	127	85	5	33		
			South Elevation 4	152	87	5	33		
			South Elevation 5	179	87	5	32		
			West Elevation 1	112	87	10	31		
			West Elevation 2	191	87	10	26		
			West Elevation 3	194	87	10	26	48	55
ERS North End Ventilation Building (ENV)									
SS6	32 Leung Uk Tsuen	Ventilation Shaft	North Elevation	184	93	10	33		
			East Elevation	173	92	0	42		
			South Elevation	179	95	0	45		
			West Elevation	191	95	10	34	47	52
SS7	Leung Uk Tsuen	Ventilation Shaft	North Elevation	122	93	0	46		
			East Elevation	121	92	0	45		
			South Elevation	128	95	10	38		
			West Elevation	131	95	10	38	49	49
SS10	DD110 LOT 482, Wang Toi Shan Choi Yuen Tsuen	Ventilation Shaft	North Elevation	207	93	0	42		
			East Elevation	211	92	5	36		
			South Elevation	212	95	10	33		
			West Elevation	209	95	5	39	44	49
SS12	No. 265 Kam Tai Road	Ventilation Shaft	North Elevation	257	93	0	40		
			East Elevation	265	92	10	29		
			South Elevation	263	95	10	32		
			West Elevation	256	95	5	37	42	49
SS15	Abandoned Shek Kong village house	Ventilation Shaft	North Elevation	174	93	10	33		
			East Elevation	168	92	5	37		
			South Elevation	169	95	0	45		
			West Elevation	176	95	10	35	47	49
ERS South End Ventilation Building (ESV)									
SS2	Nam Hing Lei	Ventilation Shaft	North Elevation	440	98	10	30		
			East Elevation	441	100	10	32		
			South Elevation	435	99	0	41		
			West Elevation	435	99	5	36	43	49
SS4	Leung Uk Tsuen Village House	Ventilation Shaft	North Elevation	365	98	10	32		
			East Elevation	360	100	5	39		
			South Elevation	359	99	0	43		
			West Elevation	365	99	5	38	45	49
SS5	51A Leung Uk Tsuen	Ventilation Shaft	North Elevation	231	98	0	46		
			East Elevation	227	100	0	48		
			South Elevation	236	99	10	37		
			West Elevation	240	99	10	36	50	52
SS11a	Leung Uk Tsuen Squats	Ventilation Shaft	North Elevation	174	98	0	48		
			East Elevation	187	100	10	40		
			South Elevation	176	99	10	39		
			West Elevation	163	99	0	50	52	52
SS14	Leung Uk Tsuen	Ventilation Shaft	North Elevation	281	98	0	44		
			East Elevation	281	100	5	41		
			South Elevation	287	99	10	35		
			West Elevation	287	99	10	35	46	49

Appendix 5.6
Night-time Fixed Plant Noise Impact Assessment

NSR No.	Description	Plant item	Direction Facing	Distance , m	SWL, dB(A)	Correction for line of sight ⁽¹⁾ , dB(A)	SPL, dB(A)	Total SPL, dB(A)	Night-time Noise Criteria, dB(A)
Mai Po Ventilation Building (MPV)									
MP1	House 5 Phase A Royal Palms	Ventilation Shaft	North Elevation 1	134	80	10	22		
			North Elevation 2	141	79	10	21		
			East Elevation 1	145	79	10	21		
			East Elevation 2	136	79	10	21		
			South Elevation 1	130	85	0	38		
			South Elevation 2	123	85	0	38		
			South Elevation 3	121	85	0	38		
			West Elevation 1	123	84	0	37		
			West Elevation 2	130	84	0	37	45	45
MP5	Proposed Comprehensive Development at Wo Shang Wai	Ventilation Shaft	North Elevation 1	101	80	5	30		
			North Elevation 2	116	79	5	28		
			East Elevation 1	125	79	10	22		
			East Elevation 2	125	79	10	22		
			South Elevation 1	119	85	5	34		
			South Elevation 2	108	85	5	34		
			South Elevation 3	97	85	5	35		
			West Elevation 1	92	84	0	40	45	45
			West Elevation 2	92	84	0	40		
MP6	Planned village house at Village Zone	Ventilation Shaft	North Elevation 1	88	80	0	36		
			North Elevation 2	73	79	0	37		
			East Elevation 1	66	79	0	38		
			East Elevation 2	68	79	0	37		
			South Elevation 1	75	85	5	38		
			South Elevation 2	86	85	5	36		
			South Elevation 3	95	85	5	35		
			West Elevation 1	99	84	10	29	45	45
			West Elevation 2	97	84	10	29		
Ngau Tam Mei Ventilation Building (NTV)									
NT1	Yau Tam Mei Village House	Ventilation Shaft	North Elevation 1	64	73	0	32		
			North Elevation 2	64	73	0	32		
			North Elevation 3	64	72	0	31		
			North Elevation 4	70	72	0	30		
			North Elevation 5	82	72	0	29		
			East Elevation 1	91	74	10	20		
			East Elevation 2	79	74	10	21		
			East Elevation 3	67	76	10	25		
			South Elevation 1	100	73	10	18		
			South Elevation 2	100	73	10	18		
			South Elevation 3	103	74	10	19		
			South Elevation 4	12	76	10	39		
			South Elevation 5	127	76	10	19		
			West Elevation 1	100	76	10	21		
			West Elevation 2	118	76	10	20		
			West Elevation 3	130	76	10	19	42	44
NT4	Yau Tam Mei Village House	Ventilation Shaft	North Elevation 1	88	73	10	19		
			North Elevation 2	97	73	10	18		
			North Elevation 3	112	72	10	16		
			North Elevation 4	130	72	10	15		
			North Elevation 5	152	72	10	13		
			East Elevation 1	85	74	0	30		
			East Elevation 2	85	74	0	30		
			East Elevation 3	85	76	0	32		
			South Elevation 1	88	73	5	24		
			South Elevation 2	97	73	5	23		
			South Elevation 3	127	74	5	22		
			South Elevation 4	152	76	5	22		
			South Elevation 5	179	76	5	21		
			West Elevation 1	112	76	10	20		
			West Elevation 2	191	76	10	15	37	44
			West Elevation 3	194	76	10	15		
ERS North End Ventilation Building (ENV)									
SS6	32 Leung Uk Tsuen	Ventilation Shaft	North Elevation	184	91	10	31		
			East Elevation	173	90	0	40		
			South Elevation	179	93	0	43		
			West Elevation	191	93	10	32	45	45
SS7	Leung Uk Tsuen	Ventilation Shaft	North Elevation	122	91	0	44		
			East Elevation	121	90	0	43		
			South Elevation	128	93	10	36		
			West Elevation	131	93	10	36	47	47
SS10	DD110 LOT 482, Wang Toi Shan Choi Yuen Tsuen	Ventilation Shaft	North Elevation	207	91	0	40		
			East Elevation	211	90	5	34		
			South Elevation	212	93	10	31		
			West Elevation	209	93	5	37	42	47
SS12	No. 265 Kam Tai Road	Ventilation Shaft	North Elevation	257	91	0	38		
			East Elevation	265	90	10	27		
			South Elevation	263	93	10	30		
			West Elevation	256	93	5	35	40	47
SS15	Abandoned Shek Kong village house	Ventilation Shaft	North Elevation	174	91	10	31		
			East Elevation	168	90	5	35		
			South Elevation	169	93	0	43		
			West Elevation	176	93	10	33	45	47
ERS South End Ventilation Building (ESV)									
SS2	Nam Hing Lei	Ventilation Shaft	North Elevation	440	95	10	27		
			East Elevation	441	93	10	25		
			South Elevation	435	93	0	35		
			West Elevation	435	93	5	30	37	39
SS4	Leung Uk Tsuen Village House	Ventilation Shaft	North Elevation	365	95	10	29		
			East Elevation	360	93	5	32		
			South Elevation	359	93	0	37		
			West Elevation	365	93	5	32	39	39
SS5	51A Leung Uk Tsuen	Ventilation Shaft	North Elevation	231	95	0	43		
			East Elevation	227	93	0	41		
			South Elevation	236	93	10	31		
			West Elevation	240	93	10	30	45	45
SS11a	Leung Uk Tsuen Squats	Ventilation Shaft	North Elevation	174	95	0	45		
			East Elevation	187	93	10	33		
			South Elevation	176	93	10	33		
			West Elevation	163	93	0	44	48	50
SS14	Leung Uk Tsuen	Ventilation Shaft	North Elevation	281	95	0	41		
			East Elevation	281	93	5	34		
			South Elevation	287	93	10	29		
			West Elevation	287	93	10	29	42	47