

Appendix 4-5
Estimated Construction Noise Levels Due to Adjacent
Approved EIA Projects

Appendix 4-5A-1 - SWL Information of Proposed Quiet PME's in the Approved Sewerage and Sewage Disposal Project

Information in this table is extracted from Table 8.12 and Table 8.13 of the EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal, EIA Final

A. Construction of Sewers

1. Sewers and Rising Main using Open Trench Method								
Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures *	Barrier Effect, dB(A) *	Mitigated Total SWL of Each Work Group, dB(A)
G1. Site Preparation	Piling, oscillator	CNP 165	104	1	104			104
G2. Road Opening	Handheld Breaker (mass >35kg)	C2-10	110	1	110	Acoustic shed	-10	100
G3. Trench excavation and earth work	Excavator for trenching	C8-33	102	1	102			102
G4. Sewer Laying	Loader	C8-15	103	1	106			106
	Medium Size Truck	C9-19	102	1				
G.5 Eathworks	Roller/Vibrating Roller	C3-115	102	1	102			102
G6. Finishes	Concrete Lorry Mixer	C6-35	100	1	106			106
	Concrete Poker Vibrator	C6-32	100	1				
	Crawler Crane with Concrete skip	C7-106	99	1				
	Medium Size Truck	C9-19	102	1				
2. Sewers and Rising Main using Pipe Jacking Method crossing streams								
Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures	Barrier Effect, dB(A)	Mitigated Total SWL of Each Work Group, dB(A)
G1. Site Preparation	Breaker, excavator mounted	C8-13	102	1	102			102
G.2 Earthwork excavation	Excavator with Multi Attachment	C3-35	106	1	106			106
G3. Pipe Jacking	Concrete Mixer Truck	C6-35	100	1	106			106
	Crawler Cane with Concrete Skip	C7-106	99	1				
	Lorry	C9-19	102	1				
	Generator	CNP 103	95	1				
	Water Pump	CNP 281	88	1				
3. Road Pavement and Finishes								
Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures	Barrier Effect, dB(A)	Mitigated Total SWL of Each Work Group, dB(A)
R1 Ballast Laying	Ballast Tamper	CNP029	105	1	105			105
R2 Compacting	Compactor	CNP 050	105	1	105			105
R3 Road Paving	Road Roller + Lorry	C8-25	96	1	106			106
	Asphalt Paver	C8-24	101	1				
	Loader	C8-15	103	1				
	Generator	C7-62	95	1				

Highest SWL During Construction of Sewers: 106

Remark: Construction of sewers will be carried out in segments and the work groups will not be conducted simultaneously. Work stages will not overlap.

* Noise mitigation measure and barrier effect are based on Table 8.13 of the EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal, EIA Final.

Appendix 4-5A-2 - SWL Information of Proposed Quiet PME in the Approved Cycle Track EIA Report

Information in the following table is extracted from Table 5-4, 5-7 and 5-8 of the EIA report for Construction of Cycle Tracks and the Associated Supporting Facilities From Sha Po Tsuen to Shek Sheung River

Stages of Work	PME	TM Ref. / BS no.	SWL/ unit (dB(A))	No. of PME	Total SWL (dB(A))	Barrier Correction with Temporary Noise Barrier Adopted in Approved EIA Report	% on time	% on time Corr., dB(A)	Mitigated SWL in Approved EIA Report	
					A	B		C	=A+B+C	
Stage 1 - Site clearance	Mini excavator	Note 1.	94	1	94	-5	100%	0	89	
	Mobile crane	BS5228: C7/118	99	1	99	-5	100%	0	94	
	Dump truck	BS5228: C9/39	103	1	103	-5	50%	-3	95	
	Hand-held electric circular saw	BS5228: C7/75	105	1	105	-10	100%	0	95	
					Total	108				100
Stage 2 - Levelling / Excavation Works	Air compressor, air flow > 10m3/min and <=30m3/min	CNP002	102	1	102	-10	100%	0	92	
	Breaker, hand-held, mass > 10kg and < 20kg	CNP024	108	2	111	-10	100%	0	101	
	Dump truck	BS5228: C9/39	103	1	103	-5	50%	-3	95	
	Mini excavator	Note 1.	94	1	94	-5	100%	0	89	
					Total	112				103
Stage 3 - Construction / Paving Works	Group 1	Bar bender and cutter (electric)	CNP021	90	1	90	-5	100%	0	85
		Vibrating hammer	Note 1.	115	1	115	-10	100%	0	105
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
		Concrete lorry mixer (6m3)	BS5228: C6/23	100	1	100	-5	100%	0	95
		Lorry	BS5228: C8/25	101	1	101	-5	100%	0	96
		Poker, vibratory, hand-held	BS5228: C6/40	98	1	98	-5	100%	0	93
		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Mobile crane	BS5228: C7/118	99	1	99	-5	100%	0	94
					Total	116				107
	Group 2	Asphalt paver	BS5228: C8/24	101	1	101	-5	100%	0	96
		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Air compressor, air flow > 10m3/min and <=30m3/min	CNP002	102	1	102	-10	100%	0	92
		Compactor, vibratory	CNP050	105	1	105	-10	50%	-3	92
		Lorry	BS5228: C8/25	101	1	101	-5	100%	0	96
		Road roller	BS5228: C8/30	101	1	101	-5	100%	0	96
						Total	109			
	Group 3	Crane mounted auger	BS5228: C4/37	111	1	111	-10	100%	0	101
		Air compressor, air flow > 10m3/min and <=30m3/min	CNP002	102	2	105	-10	100%	0	95
		Mobile crane	BS5228: C7/118	99	1	99	-5	100%	0	94
		Grout mixer	Note 1.	90	1	90	-5	100%	0	85
		Grout pump	Note 1.	105	1	105	-5	100%	0	100
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
					Total	113				105
	Group 4	Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Bar bender and cutter (electric)	CNP021	90	1	90	-5	100%	0	85
		Concrete lorry mixer (6m3)	BS5228: C6/23	100	1	100	-5	100%	0	95
		Compactor, vibratory	CNP050	105	1	105	-10	50%	-3	92
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
Poker, vibratory, hand-held		BS5228: C6/40	98	1	98	-5	100%	0	93	
Lorry		BS5228: C8/25	101	1	101	-5	100%	0	96	
Mobile crane		BS5228: C7/118	99	1	99	-5	100%	0	94	
					Total	109				102

Highest SWL, dB(A):	107
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Note 1: Details extracted from EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

Note 2: Group 1 to Group 4 works will not be conducted simultaneously. Work stages will not overlap.

Appendix 4-5B Calculated Construction Noise Level Due to Approved EIA Projects

In order to represent the worst case scenario, the highest SWL presented for different groups of construction equipment due to the approved Public Sewers in the Sewerage and Sewage Disposal EIA Project and the Cycle Track EIA Project, respectively, are used for the calculation of construction noise level at the NSR locations (see Appendix 4-5). The follow table presents the calculated noise levels due to these projects:

NSR Label	Highest SWL from Approved EIA Report, dB(A) *	Horizontal Distance, m **	Distance Attenuation, dB(A)	Façade Corr., dB(A)	Calculated Noise Level, dB(A)
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Calculated Noise Level Due to Construction of Approved Cycle Track Project:

Existing NSRs	N1	107	209	-54	3	56
	N2	107	229	-55	3	55
	N3	107	54	-43	3	67
	N4	107	38	-40	3	70
	N5	107	105	-48	3	62
	N6	107	173	-53	3	57
	N7	107	47	-41	3	69
	N8	107	216	-55	3	55
	N9	107	235	-55	3	55
	N10	107	80	-46	3	64
	N11	107	121	-50	3	60
	N12	107	247	-56	3	54
	N13	107	95	-48	3	62
	N14	107	97	-48	3	62
	N15	107	13	-30	3	80
	N16	107	166	-52	3	58
	N17	107	392	-60	3	50
	N18	107	191	-54	3	56
	N19	107	178	-53	3	57
	N20	107	140	-51	3	59
Planned NSRs	N1P	107	81	-46	3	64
	N2P	107	67	-45	3	65
	N3P	107	73	-45	3	65
	N4P	107	78	-46	3	64
	N5P	107	78	-46	3	64

Remark: * Based on SWL information extracted from approved EIA report as shown in the table **Appendix 4-5A-2**

** Based on shortest horizontal distance between the NSR and the proposed cycle track.

Calculated Noise Level Due to Construction of Approved Public Sewers in the Sewerage and Sewage Disposal Project:

Existing NSRs	N1	106	264	-56	3	53
	N2	106	279	-57	3	52
	N3	106	30	-38	3	71
	N4	106	20	-34	3	75
	N5	106	111	-49	3	60
	N6	106	178	-53	3	56
	N7	106	53	-42	3	67
	N8	106	145	-51	3	58
	N9	106	166	-52	3	57
	N10	106	40	-40	3	69
	N11	106	51	-42	3	67
	N12	106	180	-53	3	56
	N13	106	154	-52	3	57
	N14	106	108	-49	3	60
	N15	106	6	-24	3	85
	N16	106	170	-53	3	56
	N17	106	400	-60	3	49
	N18	106	196	-54	3	55
	N19	106	118	-49	3	60
	N20	106	144	-51	3	58
Planned NSRs	N1P	106	85	-47	3	62
	N2P	106	7	-25	3	84
	N3P	106	7	-25	3	84
	N4P	106	24	-36	3	73
	N5P	106	24	-36	3	73

Remark: * Based on SWL information extracted from approved EIA report as shown in the table **Appendix 4-5A-1**

** Based on shortest horizontal distance between the NSR and the proposed public sewer.