

**Kam Sheung Road Station (KSR) &
C&C Tunnel from Pat Heung Depot to
KSR**

Site Clearance, Preparation & Monitoring					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance, Preparation & Monitoring (KSR)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	

Notes:

[1] Percentage on time within 30 minutes.

Site Formation Works (RE Wall Modification and TWR Underpass)					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Site Formation (RE Wall Modification (KSR 14-16))	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	122	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	111	
	Piling, earth auger, auger	60	-2	1	CNP 167	114	112		Other 004	104	Barrier/ Acoustic Mat	-10	92		
	Drill rig, rotary type (diesel)	60	-2	1	OCNP 015	110	108		Other 005	104	Barrier/ Acoustic Mat	-10	92		
	Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102		EPD-09708	94	Barrier/ Acoustic Mat	-10	82		
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100				Barrier/ Acoustic Mat	-5	95		
	Concrete lorry mixer	60	-2	1	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102		
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90					90
	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110		EPD-07577	92	Barrier/ Acoustic Mat	-5	85		
	Breaker, excavated mounted (hydraulic)	60	-2	1	CNP 028	122	120				Soundproof Hammer Bracket	-10	110		
Site Formation (TWR Underpass (KSR 12-14))	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100	120			Barrier/ Acoustic Mat	-5	95	110	
	Breaker, excavated mounted (hydraulic)	60	-2	1	CNP 028	122	120				Soundproof Hammer Bracket	-10	110		

Notes:

[1] Percentage on time within 30 minutes.

D-wall, Piling and Excavation					Unmitigated					Mitigated						
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
D-wall, Piling and Excavation (KSR 1-12)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	117	Other 004	104	Barrier/ Acoustic Mat	-10	95	101	
		Grout mixer	30	-5	1	OCNP 021	90	85								
		Grout pump	30	-5	1	OCNP 022	105	100								
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104								
		Excavator/loader, wheeled/tracked (excavator)	30	-5	1	CNP 081	112	107								
		Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103								
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100								
		Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110								
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 046	105	103								
	B	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	111	EPD-12240	101	Barrier/ Acoustic Mat	-5	98	99	
		Breaker, excavated mounted (hydraulic)	50		4											
		Water pump, submersible (electric)	40		4											
	C	C	Excavator/loader, wheeled/tracked (excavator)	30	-5	1	CNP 081	112	107	115	Other 005	104	Barrier/ Acoustic Mat	-10	95	101
			Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103							
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100							
			Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110							
			Drill rig, rotary type (diesel)	60	-2	2	OCNP 015	110	111							
			Grout mixer	30	-5	1	OCNP 021	90	85							
Grout pump			30	-5	1	OCNP 022	105	100								
Excavator/loader, wheeled/tracked (excavator)			30	-5	1	CNP 081	112	107								
Generator, silenced, 75 dB(A) at 7 m			100	0	2	CNP 102	100	103								
D-wall, Piling and Excavation (KSR 12-33)		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100	121	Other 004 Other 005	104 104	Barrier/ Acoustic Mat	-10	94	110	
		Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110								
		Piling, diaphragm wall, bentonite filtering plant	60	-2	6	CNP 162	105	111								
		Piling, diaphragm wall, hydraulic extractor	60	-2	6	CNP 163	90	96								
		Grout mixer	40	-4	6	OCNP 021	90	94								
		Bar bender and cutter (electric)	30	-5	6	CNP 021	90	93								
		Piling, earth auger, auger	30	-5	1	CNP 167	114	109								
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105								
		Grout mixer	30	-5	1	OCNP 021	90	85								
		Grout pump	30	-5	1	OCNP 022	105	100								
		Excavator/loader, wheeled/tracked (excavator)	30	-5	4	CNP 081	112	113								
		Air compressor, air flow > 30 m3/min	50	-3	6	CNP 003	104	109								
		Generator, silenced, 75 dB(A) at 7 m	100	0	6	CNP 102	100	108								
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 046	105	108								
		Concrete lorry mixer	30	-5	6	CNP 044	109	112								
		Crane, mobile/barge mounted (diesel)	60	-2	4	CNP 048	112	116								
		Water pump, submersible (electric)	40	-4	6	CNP 283	85	89								
		D-wall, Piling and Excavation (KSR 33-39)		Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162				105	103	118		Other 004 Other 005
Piling, diaphragm wall, hydraulic extractor	60			-2	1	CNP 163	90	88								
Bar bender and cutter (electric)	30			-5	1	CNP 021	90	85								
Piling, earth auger, auger	30			-5	2	CNP 167	114	112								
Drill rig, rotary type (diesel)	30			-5	2	OCNP 015	110	108								
Grout mixer	30			-5	1	OCNP 021	90	85								
Grout pump	30			-5	1	OCNP 022	105	100								
Excavator/loader, wheeled/tracked (excavator)	30			-5	3	CNP 081	112	112								
Air compressor, air flow > 30 m3/min	50			-3	2	CNP 003	104	104								
Generator, silenced, 75 dB(A) at 7 m	100			0	2	CNP 102	100	103								
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30			-5	4	OCNP 046	105	106								
Concrete lorry mixer	30			-5	1	CNP 044	109	104								
Crane, mobile/barge mounted (diesel)	30			-5	2	CNP 048	112	110								
Water pump, submersible (electric)	40			-4	2	CNP 283	85	84								

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.
 [2] PME in shaded cells will operate underground and are not included in the calculation.
 [3] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (KSR 1-12)	Concrete lorry mixer	30	-5	2	CNP 044	109	107	112			Barrier/ Acoustic Mat Enclosure Barrier/ Acoustic Mat	-5 -15 -5	102 94 87	103
	Concrete pump, stationary/lorry mounted	50	-3	2	CNP 047	109	109							
	Hoist, passenger/material (electric)	50	-3	1	CNP 122	95	92							
	Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103							
RC Works (KSR 1-12 Sub Zone 1)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	113	EPD-12240 Other 007	101 102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -10 -15	93 87 93	97
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
	Ventilation fan	100	0	1	CNP 241	108	108							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
RC Works (KSR 1-12 Sub Zone 2)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	113	EPD-12240 Other 007	101 102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -10 -15	93 87 93	97
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
	Ventilation fan	100	0	1	CNP 241	108	108							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
RC Works (KSR 1-12 Sub Zone 3)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	113	EPD-12240 Other 007	101 102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -10 -15	93 87 93	97
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
	Ventilation fan	100	0	1	CNP 241	108	108							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
RC Works (KSR 12-33)	Crane, mobile/barge mounted (diesel)	30	-5	5	CNP 048	112	114	121	EPD-12240 Other 007	101 102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer Barrier/ Acoustic Mat	-5 -5 -10 -15 -15 -5	98 106 94 96 100 85	108
	Concrete lorry mixer	30	-5	5	CNP 044	109	111							
	Poker, vibratory, hand-held	30	-5	6	CNP 170	113	116							
	Concrete pump, stationary/lorry mounted	30	-5	5	CNP 047	109	111							
	Ventilation fan	100	0	5	CNP 241	108	115							
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90							
	Generator, silenced, 75 dB(A) at 7 m	100	0	5	CNP 102	100	107							
	Bar bender and cutter (electric)	60	-2	5	CNP 021	90	95							
	EPD-00592R	90												
RC Works (KSR 33-39)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	117	EPD-12240 Other 007	101 102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer	-5 -5 -10 -15 -15	94 102 91 92 96	104
	Concrete lorry mixer	30	-5	2	CNP 044	109	107							
	Poker, vibratory, hand-held	30	-5	3	CNP 170	113	113							
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107							
	Ventilation fan	100	0	2	CNP 241	108	111							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91							
	EPD-00592R	90												

Notes:
 [1] Percentage on time within 30 minutes.

Project: Environmental Consultancy No. C1603 EIA Study for Northern Link
 Title: Detailed PME Inventory (Kam Sheung Road Station (KSR) & C&C Tunnel from PHD to KSR)

Structural Steel Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Structural Steel Works (KSR 16-33)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	97
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	

Notes:

[1] Percentage on time within 30 minutes.

UU and Road Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU and Road Works (KSR Ext A)	Compactor, vibratory	90	0	1	CNP 050	105	105	118	EPD-06997 EPD-11257 EPD-07577 Other 001 EPD-00592R EPD-12553 Other 007	94 104 92 94 90 99 102	Barrier/ Acoustic Mat	-10	95	105
	Roller, vibratory	60	-2	1	CNP 186	108	106				Barrier/ Acoustic Mat	-5	87	
	Asphalt paver	70	-2	1	CNP 004	109	107				Barrier/ Acoustic Mat	-5	97	
	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111				Barrier/ Acoustic Mat	-5	86	
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113						92	
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104				Barrier/ Acoustic Mat	-5	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100						90	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107				Barrier/ Acoustic Mat	-10	88	
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108				Barrier/ Acoustic Mat	-10	87	

Notes:
 [1] Percentage on time within 30 minutes.

Bicycle Parking Bays					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Bicycle Parking Bays (KSR Ext B)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	103
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104				Barrier/ Acoustic Mat	-5	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	90			
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108		Other 007	102	Barrier/ Acoustic Mat	-10	87	

Notes:

[1] Percentage on time within 30 minutes.

C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel					Unmitigated					Mitigated					
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel (PHDKSR-1)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	117	Other 004 Other 005	104	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10 -10 -10 -5	95 92 93 84 91	99
		Drill rig, rotary type (diesel)	60	-2	1	OCNP 015	110	108			104				
		Grout pump	60	-2	1	OCNP 022	105	103			101				
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104			94				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		EPD-09708	94	84											
	B	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110	114	EPD-07577 EPD-12240 EPD-00592R	92	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5 -5 -5 -15	85 95 91 93 90	99
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100			101				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Ventilation fan	100	0	1	CNP 241	108	108			90				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		Breaker, excavated mounted (hydraulic)	40		2										
		Excavator/loader, wheeled/tracked (loader)	60		1										
	C	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	113	EPD-12240 EPD-00592R		Enclosure Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-15 -5	91 99	101
Concrete lorry mixer		30	-5	1	CNP 044	109	104	101							
Bar bender and cutter (electric)		60	-2	1	CNP 021	90	88	88							
Crane, mobile/barge mounted (diesel)		30	-5	1	CNP 048	112	107	91							
Ventilation fan		100	0	1	CNP 241	108	108	93							
Generator, silenced, 75 dB(A) at 7 m		100	0	1	CNP 102	100	100	90							
EPD-09708		94	88												
C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel (PHDKSR-2)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	117	Other 004 Other 005	104	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10 -10 -10 -5	95 92 93 84 91	99
		Drill rig, rotary type (diesel)	60	-2	1	OCNP 015	110	108			104				
		Grout pump	60	-2	1	OCNP 022	105	103			101				
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104			94				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		EPD-09708	94	84											
	B	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110	114	EPD-07577 EPD-12240 EPD-00592R	92	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5 -5 -5 -15	85 95 91 93 90	99
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100			101				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Ventilation fan	100	0	1	CNP 241	108	108			90				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		Breaker, excavated mounted (hydraulic)	40		2										
		Excavator/loader, wheeled/tracked (loader)	60		1										
	C	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88	111	EPD-12240 EPD-00592R		Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5	88 91	97
Crane, mobile/barge mounted (diesel)		30	-5	1	CNP 048	112	107	101							
Ventilation fan		100	0	1	CNP 241	108	108	93							
Generator, silenced, 75 dB(A) at 7 m		100	0	1	CNP 102	100	100	90							
EPD-09708		94	88												
EPD-12240		101	91												
EPD-00592R		90	90												
C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel (PHDKSR-3)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	117	Other 004 Other 005	104	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10 -10 -10 -5	95 92 93 84 91	99
		Drill rig, rotary type (diesel)	60	-2	1	OCNP 015	110	108			104				
		Grout pump	60	-2	1	OCNP 022	105	103			101				
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104			94				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		EPD-09708	94	84											
	B	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110	114	EPD-07577 EPD-12240 EPD-00592R	92	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5 -5 -5 -15	85 95 91 93 90	99
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100			101				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Ventilation fan	100	0	1	CNP 241	108	108			90				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		Breaker, excavated mounted (hydraulic)	40		2										
		Excavator/loader, wheeled/tracked (loader)	60		1										
	C	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	113	EPD-12240 EPD-00592R		Enclosure Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-15 -5	91 99	101
Concrete lorry mixer		30	-5	1	CNP 044	109	104	101							
Bar bender and cutter (electric)		60	-2	1	CNP 021	90	88	88							
Crane, mobile/barge mounted (diesel)		30	-5	1	CNP 048	112	107	91							
Ventilation fan		100	0	1	CNP 241	108	108	93							
Generator, silenced, 75 dB(A) at 7 m		100	0	1	CNP 102	100	100	90							
EPD-09708		94	88												
C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel (PHDKSR-4)	A (Eastern)	Piling, earth auger, auger	60	-2	1	CNP 167	114	112	113	Other 004	104	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10 -10	92 93 81	95
		Grout pump	60	-2	1	OCNP 022	105	103			104				
		Air compressor, air flow > 30 m3/min	50	-3	1	CNP 003	104	101			94				
	A (Western)	Piling, earth auger, auger	60	-2	1	CNP 167	114	112	115	Other 004 Other 005	104	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10 -10 -10 -5	92 92 93 81 91	99
		Drill rig, rotary type (diesel)	60	-2	1	OCNP 015	110	108			104				
		Grout pump	60	-2	1	OCNP 022	105	103			101				
		Air compressor, air flow > 30 m3/min	50	-3	1	CNP 003	104	101			94				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
		EPD-09708	94	81											
	B	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110	114	EPD-07577 EPD-12240 EPD-00592R	92	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5 -5 -5 -15	85 95 91 93 90	99
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100			101				
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101				
		Ventilation fan	100	0	1	CNP 241	108	108			90				
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90				
Breaker, excavated mounted (hydraulic)		40		2											
Excavator/loader, wheeled/tracked (loader)		60		1											
C	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88	111	EPD-12240 EPD-00592R		Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Barrier/ Acoustic Mat Silencer	-5 -5	88 91	97	
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107			101					
	Ventilation fan	100	0	1	CNP 241	108	108			93					
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90					

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.
 [2] PME in shaded cells will operate underground and are not included in the calculation.
 [3] Percentage on time within 30 minutes.

C&C Tunnel: PHD to KSR incl. Southern Extension Tunnel - Backfilling					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
C&C Tunnel: Backfilling (PHDKSR 1-4)	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	95	101		
	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111				Barrier/ Acoustic Mat	-5	86			
	Bulldozer	70	-2	1	CNP 030	115	113				EPD-07836	105	Barrier/ Acoustic Mat		-5	98
	Roller, vibratory	40	-4	1	CNP 186	108	104				EPD-06997	94	Barrier/ Acoustic Mat		-5	85
	Compactor, vibratory	30	-5	1	CNP 050	105	100				Barrier/ Acoustic Mat	-10	90			

Notes:
 [1] Percentage on time within 30 minutes.

KSR - Backfilling					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
KSR - Backfilling (KSR 12-14)	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	95	101		
	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111				Barrier/ Acoustic Mat	-5	86			
	Bulldozer	70	-2	1	CNP 030	115	113				EPD-07836	105	Barrier/ Acoustic Mat		-5	98
	Roller, vibratory	40	-4	1	CNP 186	108	104				EPD-06997	94	Barrier/ Acoustic Mat		-5	85
	Compactor, vibratory	30	-5	1	CNP 050	105	100				Barrier/ Acoustic Mat	-10	90			

Notes:
 [1] Percentage on time within 30 minutes.

**Shui Mei Road Ancillary Building
(EAP/EEP/VB)**

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (AB5)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	104
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	94		
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110	EPD-12048	101	Barrier/ Acoustic Mat	-5	94		
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100			Barrier/ Acoustic Mat	-5	95		
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106	EPD-12553	99	Barrier/ Acoustic Mat	-10	87		

Notes:

[1] Percentage on time within 30 minutes.

Retaining Walls and Site Formation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Retaining Walls and Site Formation Works (AB5-RW)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	103
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113		Other 001	94				
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104		EPD-00592R	90	Barrier/ Acoustic Mat	-5	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108		Other 007	102	Barrier/ Acoustic Mat	-10	87	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							

Notes:
 [1] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated						
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB5-a1)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113			Barrier/ Acoustic Mat	-10	103	103
	B	Piling, larger diameter bored, reverse circulation drill	60	-2	1	CNP 166	100	98	103			Barrier/ Acoustic Mat	-10	88	89
	C	Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102		EPD-09708	94	Barrier/ Acoustic Mat	-10	82	
Cofferdam Works (AB5-a2)	A	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111			Barrier/ Acoustic Mat	-10	101	101
	B	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113			Barrier/ Acoustic Mat	-10	103	103
	C	Piling, larger diameter bored, reverse circulation drill	60	-2	1	CNP 166	100	98	103	EPD-09708	94	Barrier/ Acoustic Mat	-10	88	89
Cofferdam Works (AB5-a3)	A	Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102		EPD-09708	94	Barrier/ Acoustic Mat	-10	82	
	B	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111			Barrier/ Acoustic Mat	-10	101	101
	C	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113			Barrier/ Acoustic Mat	-10	103	103
Cofferdam Works (AB5-a)	A	Piling, larger diameter bored, reverse circulation drill	60	-2	1	CNP 166	100	98	103			Barrier/ Acoustic Mat	-10	88	89
	B	Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102		EPD-09708	94	Barrier/ Acoustic Mat	-10	82	
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111			Barrier/ Acoustic Mat	-10	101	101
Cofferdam Works (AB5-a)	A	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	91					91	91
	B	Concrete lorry mixer	60	-2	1	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	
	C	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90	

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

Foundation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (AB5-b)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	116	EPD-09708	94	Barrier/ Acoustic Mat	-10	105	105
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105				Barrier/ Acoustic Mat	-10	85	
	Grout mixer	60	-2	1	OCNP 021	90	88						88	
	Grout pump	60	-2	1	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Generator, portable	100	0	1	OCNP 023	100	100				Barrier/ Acoustic Mat	-10	90	

Notes:
 [1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB5-a)	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	88	99
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98		EPD-00592R	90				
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat Silencer	-5	95	
	Ventilation fan	100	0	2	CNP 241	108	111							

Notes:
 [1] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB5-b)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117					91	106
	Concrete lorry mixer	60	-2	2	CNP 044	109	110						105	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113		Other 007	102	Barrier/ Acoustic Mat	-5	92	
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108				Barrier/ Acoustic Mat	-10	93	
	Ventilation fan	100	0	2	CNP 241	108	111				Enclosure	-15	96	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	Silencer	-15	90	

Notes:
 [1] Percentage on time within 30 minutes.

TBM Tunnel						Unmitigated				Mitigated						
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
TBM Tunnel (AB5-TBM)	A	Crane, tower (electric)	30	-5	1	CNP 049	95	90	116							
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107								
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104								
		Slurry treatment plant (for slurry-TBM only)	80	-1	2	CNP 162	105	107								
		Ventilation fan	100	0	2	CNP 241	108	111								
		Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107								
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 046	105	104								
		Concrete lorry mixer	30	-5	2	CNP 044	109	107								
		TBM (Slurry or EPB type) + back up	100		2											
		Locomotive	60		2											
	B	Crane, tower (electric)	30	-5	1	CNP 049	95	90	115							
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107								
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104								
		Conveyor belt	100	0	2	CNP 041	90	93								
		Ventilation fan	100	0	2	CNP 241	108	111								
		Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107								
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 046	105	104								
		Concrete lorry mixer	30	-5	2	CNP 044	109	107								
		TBM (Slurry or EPB type) + back up	100		2											
		Locomotive	60		2											

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.
 [2] PME in shaded cells will operate underground and are not included in the calculation.
 [3] Percentage on time within 30 minutes.

Temp. CLP Substation for TBM Operation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance and Establishment (CLP Substation)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	100
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	

Note:
 [1] Percentage on time within 30 minutes.

Temp. CLP Substation for TBM Operation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Construct Temporary Substation (CLP Substation)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	102
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107		EPD-12240	101	Barrier/ Acoustic Mat	-5	91	
	Concrete lorry mixer	50	-3	1	CNP 044	109	106				Barrier/ Acoustic Mat	-5	101	
	Poker, vibratory, hand-held	50	-3	1	CNP 170	113	110		Other 007	102	Barrier/ Acoustic Mat	-10	89	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88						88	

Note:
 [1] Percentage on time within 30 minutes.

Temp. CLP Substation for TBM Operation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Decommissioning, Demolition and Site Reinstatement Temporary Substation (CLP Substation)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	113	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	99
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 047	105	100		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107	Barrier/ Acoustic Mat			-5	91		
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	Barrier/ Acoustic Mat			-5	95		

Note:
 [1] Percentage on time within 30 minutes.

Contractor's Site Office					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Contractor Site Office Construction (Contractor Site Office)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	101	
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95		
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94		
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95		
	Generator, silenced, 75 dB(A) at 7 m	90	0	1	CNP 102	100	100		EPD-00592R	90					90
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100				Barrier/ Acoustic Mat	-5	95		

Note:
 [1] Percentage on time within 30 minutes.

Contractor's Site Office					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Removal and Reinstatement (Contractor Site Office)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	100
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100			Barrier/ Acoustic Mat	-5	95		
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 047	105	100			Barrier/ Acoustic Mat	-5	95		

Note:
 [1] Percentage on time within 30 minutes.

Au Tau Station (AUT)

Site Clearance, Preparation & Monitoring					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
Site Clearance, Preparation & Monitoring (AUT-A, AUT-B & AUT-C)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104		
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112						Barrier/ Acoustic Mat		-10	102
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111						Barrier/ Acoustic Mat		-5	95
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94			
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100		EPD-12048	101	Barrier/ Acoustic Mat	-5	95			
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88			

Notes:
 [1] Percentage on time within 30 minutes.

Site Formation Works, Backfilling					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Formation Works, Backfilling (AUT-A, AUT-B & AUT-C)	Bulldozer	80	-1	3	CNP 030	115	119	119	EPD-07836	105	Barrier/ Acoustic Mat	-5	104	106
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 047	105	105	Barrier/ Acoustic Mat			-5	100		
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 046	105	105	Barrier/ Acoustic Mat	-5	100				
	Roller, vibratory	30	-5	3	CNP 186	108	108	EPD-06997	94	Barrier/ Acoustic Mat	-5	89		

Notes:
 [1] Percentage on time within 30 minutes.

D-wall & Piling Trial					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
D-wall & Piling Trial (AUT-A, AUT-B & AUT-C)	Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	111	Other 004	104	Barrier/ Acoustic Mat	-10	93	99
	Piling, diaphragm wall, hydraulic extractor	60	-2	1	CNP 163	90	88							
	Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85							
	Piling, earth auger, auger	30	-5	1	CNP 167	114	109							
	Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105							
	Grout mixer	30	-5	1	OCNP 021	90	85							
	Grout pump	30	-5	1	OCNP 022	105	100							

Notes:

[1] Percentage on time within 30 minutes.

D-wall, Piling & Excavation					Unmitigated					Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
D-wall, Piling & Excavation (AUT-A)		Piling, diaphragm wall, bentonite filtering plant	60	-2	3	CNP 162	105	108	119	Other 004	104	Barrier/ Acoustic Mat	-10	98	108
		Piling, diaphragm wall, hydraulic extractor	60	-2	3	CNP 163	90	93							
		Bar bender and cutter (electric)	30	-5	3	CNP 021	90	90							
		Piling, earth auger, auger	30	-5	3	CNP 167	114	114							
		Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110							
		Grout mixer	30	-5	1	OCNP 021	90	85							
		Grout pump	30	-5	1	OCNP 022	105	100							
		Excavator/loader, wheeled/tracked (excavator)	30	-5	2	CNP 081	112	110							
		Air compressor, air flow > 30 m3/min	50	-3	3	CNP 003	104	106							
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105							
		EPD-07577	92	Barrier/ Acoustic Mat	-10	90									
		EPD-09708	94	Barrier/ Acoustic Mat	-5	85									
		EPD-00592R	90	Barrier/ Acoustic Mat	-10	86									
		Barrier/ Acoustic Mat	-5	100											
		Barrier/ Acoustic Mat	-5	104											
		Barrier/ Acoustic Mat	-5	96											
		Barrier/ Acoustic Mat	-5	86											
D-wall, Piling & Excavation (AUT-B)		Piling, diaphragm wall, bentonite filtering plant	60	-2	3	CNP 162	105	108	119	Other 004	104	Barrier/ Acoustic Mat	-10	98	108
		Piling, diaphragm wall, hydraulic extractor	60	-2	3	CNP 163	90	93							
		Bar bender and cutter (electric)	30	-5	3	CNP 021	90	90							
		Piling, earth auger, auger	30	-5	3	CNP 167	114	114							
		Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110							
		Grout mixer	30	-5	1	OCNP 021	90	85							
		Grout pump	30	-5	1	OCNP 022	105	100							
		Excavator/loader, wheeled/tracked (excavator)	30	-5	2	CNP 081	112	110							
		Air compressor, air flow > 30 m3/min	50	-3	3	CNP 003	104	106							
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105							
		EPD-07577	92	Barrier/ Acoustic Mat	-10	90									
		EPD-09708	94	Barrier/ Acoustic Mat	-5	85									
		EPD-00592R	90	Barrier/ Acoustic Mat	-10	86									
		Barrier/ Acoustic Mat	-5	100											
		Barrier/ Acoustic Mat	-5	104											
		Barrier/ Acoustic Mat	-5	96											
		Barrier/ Acoustic Mat	-5	86											
D-wall, Piling & Excavation (AUT-C)	A	Piling, diaphragm wall, bentonite filtering plant	60	-2	3	CNP 162	105	108	115	EPD-00592R	90	Barrier/ Acoustic Mat	-10	98	107
		Piling, diaphragm wall, hydraulic extractor	60	-2	3	CNP 163	90	93							
		Bar bender and cutter (electric)	30	-5	3	CNP 021	90	90							
		Grout mixer	30	-5	1	OCNP 021	90	85							
		Grout pump	30	-5	1	OCNP 022	105	100							
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105							
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 046	105	105							
		Concrete lorry mixer	30	-5	3	CNP 044	109	109							
		Crane, mobile/barge mounted (diesel)	30	-5	3	CNP 048	112	112							
	EPD-12240	101	Barrier/ Acoustic Mat	-5	96										
	B	Bar bender and cutter (electric)	30	-5	3	CNP 021	90	90	121	Other 004	104	Barrier/ Acoustic Mat	-10	90	111
		Piling, earth auger, auger	30	-5	3	CNP 167	114	114							
		Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110							
		Grout mixer	30	-5	1	OCNP 021	90	85							
		Grout pump	30	-5	1	OCNP 022	105	100							
		Piling, larger diameter bored, grab and chisel	60	-2	2	CNP 164	115	116							
		Piling, larger diameter bored, reverse circulation drill	40	-4	2	CNP 166	100	99							
		Piling, larger diameter bored, oscillator	40	-4	2	CNP 165	115	114							
		Air compressor, air flow > 30 m3/min	50	-3	3	CNP 003	104	106							
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105							
		EPD-09708	94	Barrier/ Acoustic Mat	-10	86									
EPD-00592R		90	Barrier/ Acoustic Mat	-5	95										
Barrier/ Acoustic Mat	-5	100													
Barrier/ Acoustic Mat	-5	104													
Barrier/ Acoustic Mat	-5	96													
C	Excavator/loader, wheeled/tracked (excavator)	30	-5	2	CNP 081	112	110	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	102	
	Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105								
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 046	105	105								
	EPD-00592R	90	Barrier/ Acoustic Mat	-5	95										
Barrier/ Acoustic Mat	-5	100													
Barrier/ Acoustic Mat	-5	104													
Barrier/ Acoustic Mat	-5	96													
Barrier/ Acoustic Mat	-5	86													

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.
 [2] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
RC Works (AUT-A)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	117	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	104		
	Concrete lorry mixer	30	-5	2	CNP 044	109	107				Other 007	102	Barrier/ Acoustic Mat		-5	102
	Poker, vibratory, hand-held	30	-5	3	CNP 170	113	113						Barrier/ Acoustic Mat		-10	91
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107		Enclosure	-15			92			
	Ventilation fan	100	0	2	CNP 241	108	111		Silencer	-15			96			
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90		Barrier/ Acoustic Mat	-5			85			
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90					90	
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91					91				
RC Works (AUT-B)	Crane, mobile/barge mounted (diesel)	30	-5	3	CNP 048	112	112	119	EPD-12240	101	Barrier/ Acoustic Mat	-5	96	106		
	Concrete lorry mixer	30	-5	3	CNP 044	109	109				Other 007	102	Barrier/ Acoustic Mat		-5	104
	Poker, vibratory, hand-held	30	-5	4	CNP 170	113	114						Barrier/ Acoustic Mat		-10	93
	Concrete pump, stationary/lorry mounted	30	-5	3	CNP 047	109	109		Enclosure	-15			94			
	Ventilation fan	100	0	3	CNP 241	108	113		Silencer	-15			98			
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90		Barrier/ Acoustic Mat	-5			85			
	Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103		EPD-00592R	90					93	
	Bar bender and cutter (electric)	60	-2	3	CNP 021	90	93					93				
RC Works (AUT-C)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	117	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	104		
	Concrete lorry mixer	30	-5	2	CNP 044	109	107				Other 007	102	Barrier/ Acoustic Mat		-5	102
	Poker, vibratory, hand-held	30	-5	3	CNP 170	113	113						Barrier/ Acoustic Mat		-10	91
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107		Enclosure	-15			92			
	Ventilation fan	100	0	2	CNP 241	108	111		Silencer	-15			96			
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90		Barrier/ Acoustic Mat	-5			85			
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90					90	
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91					91				

Notes:
 [1] Percentage on time within 30 minutes.

Structural Steel Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Structural Steel Works (AUT-B)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	97
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	

Notes:

[1] Percentage on time within 30 minutes.

Park & Ride facilities / Bicycle Parking Bays					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Park & Ride facilities / Bicycle Parking Bays (AUT-D)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	103	
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104								
	Concrete lorry mixer	30	-5	1	CNP 044	109	104								
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100	EPD-00592R	90	Barrier/ Acoustic Mat	-5	99			
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107			EPD-12553	99	Barrier/ Acoustic Mat	-10		88
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108			Other 007	102	Barrier/ Acoustic Mat	-10		87

Notes:
 [1] Percentage on time within 30 minutes.

**Pok Wai Ancillary Building
(EAP/EEP/VB)**

Preliminary Works						Unmitigated				Mitigated							
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
Preliminary Works (Whole Area)	A	Saw, chain, hand-held	60	-2	1	CNP 202	114	112	114	Other 008	94	Barrier/ Acoustic Mat	-10	82	94		
		Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110				EPD-12240	101	Barrier/ Acoustic Mat		-5	94
	B	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	98		
		Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110				EPD-12048	101	Barrier/ Acoustic Mat		-5	94
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				EPD-12553	99	Barrier/ Acoustic Mat		-5	95
		Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106						Barrier/ Acoustic Mat		-10	87

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Road Works					Unmitigated				Mitigated						
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Road Works (AB6-b)	A	Compactor, vibratory	90	0	1	CNP 050	105	105	112	EPD-07577	92	Barrier/ Acoustic Mat	-10	95	99
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
	B	Roller, vibratory	60	-2	1	CNP 186	108	106	114	EPD-06997	94	Barrier/ Acoustic Mat	-5	87	100
		Asphalt paver	70	-2	1	CNP 004	109	107							
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	C	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88	115	EPD-00592R	90	Barrier/ Acoustic Mat	-5	86	98
		Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	D	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88	114	EPD-00592R	90	Barrier/ Acoustic Mat	-5	86	101
		Concrete lorry mixer	30	-5	1	CNP 044	109	104							
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	Barrier/ Acoustic Mat	-5	86	
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Cofferdam Works						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB6-a (AB Area Only)) (Northeast)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113	Other 002	107	Barrier/ Acoustic Mat	-10	95	95
	B	Piling, larger diameter bored, reverse circulation drill Air compressor, air flow > 30 m3/min	60	-2	1	CNP 166 CNP 003	100 104	98 102	103	EPD-09708	94	Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10	88 82	89
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111	Other 003	110	Barrier/ Acoustic Mat	-10	96	96
Cofferdam Works (AB6-a (AB Area Only)) (Northwest)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113	Other 002	107	Barrier/ Acoustic Mat	-10	95	95
	B	Piling, larger diameter bored, reverse circulation drill Air compressor, air flow > 30 m3/min	60	-2	1	CNP 166 CNP 003	100 104	98 102	103	EPD-09708	94	Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10	88 82	89
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111	Other 003	110	Barrier/ Acoustic Mat	-10	96	96
Cofferdam Works (AB6-a (AB Area Only)) (Southeast)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113	Other 002	107	Barrier/ Acoustic Mat	-10	95	95
	B	Piling, larger diameter bored, reverse circulation drill Air compressor, air flow > 30 m3/min	60	-2	1	CNP 166 CNP 003	100 104	98 102	103	EPD-09708	94	Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10	88 82	89
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111	Other 003	110	Barrier/ Acoustic Mat	-10	96	96
Cofferdam Works (AB6-a (AB Area Only)) (Southwest)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113	Other 002	107	Barrier/ Acoustic Mat	-10	95	95
	B	Piling, larger diameter bored, reverse circulation drill Air compressor, air flow > 30 m3/min	60	-2	1	CNP 166 CNP 003	100 104	98 102	103	EPD-09708	94	Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10	88 82	89
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111	Other 003	110	Barrier/ Acoustic Mat	-10	96	96
Cofferdam Works (AB6-a (AB Area Only))		Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	108					91	102
		Concrete lorry mixer	60	-2	1	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90	

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Retaining Walls					Unmitigated				Mitigated							
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Retaining Walls (AB6-a-RW)	A	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113	116	Other 001	94	Barrier/ Acoustic Mat	-5	92	101	
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111			EPD-07577			92		86
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104			EPD-00592R			90		99
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100								90
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108								Other 007
	B	Concrete lorry mixer	30	-5	1	CNP 044	109	104	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	99	103	
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88			88					
		Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111			86					
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104			99					
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100			90					
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108			Other 007			102		87

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Retaining Walls						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Bored Pile Wall (AB6-a-BPW)	A	Piling, larger diameter bored, grab and chisel	60	-2	1	CNP 164	115	113	113	Other 002	107	Barrier/ Acoustic Mat	-10	95	95
	B	Piling, larger diameter bored, reverse circulation drill Air compressor, air flow > 30 m3/min	60	-2	1	CNP 166 CNP 003	100 104	98 102	103	EPD-09708	94	Barrier/ Acoustic Mat Barrier/ Acoustic Mat	-10 -10	88 82	89
	C	Piling, larger diameter bored, oscillator	40	-4	1	CNP 165	115	111	111	Other 003	110	Barrier/ Acoustic Mat	-10	96	96

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Foundation Works						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (AB6-a (AB Area Only) North)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	115	Other 004	104	Barrier/ Acoustic Mat	-10	95	95
		Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102							
	B	Grout mixer	60	-2	1	OCNP 021	90	88	105			Barrier/ Acoustic Mat	-10	88	95
Grout pump	60	-2	1	OCNP 022	105	103									
Generator, portable	100	0	1	OCNP 023	100	100									
Foundation Works (AB6-a (AB Area Only) Southwest)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	115	Other 004	104	Barrier/ Acoustic Mat	-10	95	95
		Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102							
	B	Grout mixer	60	-2	1	OCNP 021	90	88	105			Barrier/ Acoustic Mat	-10	88	95
Grout pump	60	-2	1	OCNP 022	105	103									
Generator, portable	100	0	1	OCNP 023	100	100									
Foundation Works (AB6-a (AB Area Only) Southeast)	A	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	115	Other 004	104	Barrier/ Acoustic Mat	-10	95	95
		Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102							
	B	Grout mixer	60	-2	1	OCNP 021	90	88	105			Barrier/ Acoustic Mat	-10	88	95
Grout pump	60	-2	1	OCNP 022	105	103									
Generator, portable	100	0	1	OCNP 023	100	100									

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB6-a)	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	88	99
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98		EPD-00592R	90			88	
	Ventilation fan	100	0	2	CNP 241	108	111						Silencer	-15

Notes:

[1] Percentage on time within 30 minutes.

Adit and Underground Tunnel Works					Unmitigated				Mitigated					
Activity (Works Area)	PME [1]	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Adit and Underground Tunnel Works (AB6-a (AB Area Only))	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110	116	EPD-12048	101	Barrier/ Acoustic Mat	-5	94	103
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100				Barrier/ Acoustic Mat	-5	95	
	Ventilation fan	100	0	4	CNP 241	108	114				Silencer	-15	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Jumbo 3 Booms	60	-2	1										
	Jumbo 2 Booms	60	-2	1										
	Dumper	40	-4	6										
	Excavator/loader, wheeled/tracked (excavator)	60	-2	2										
	Excavator/loader, wheeled/tracked (excavator)	60	-2	1										
	Breaker, excavated mounted (hydraulic)	60	-2	1										
	Rockbolter 2 Booms	60	-2	1										
	Grout mixer	30	-5	2										
	Grout pump	30	-5	2										
	Shotcreting Robot with Pump	60	-2	1										
	Shotcretig Pump	60	-2	1										
	Basket Boom Truck	60	-2	1										
	Air compressor, air flow > 30 m3/min	50	-3	4										
	Bulldozer	60	-2	1										
	Generator, silenced, 75 dB(A) at 7 m	100	0	1										
	Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	60	-2	1										
Water pump, submersible (electric)	60	-2	4											
Bar bender and cutter (electric)	60	-2	1											
Concrete pump, stationary/lorry mounted	75	-1	1											

Notes:

[1] PME in shaded cells will operate underground and are not included in the calculation.

[2] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB6-a (AB Area Only))	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117	Other 007	102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer	-5 -10 -15 -15	91	106
	Concrete lorry mixer	60	-2	2	CNP 044	109	110						105	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113						92	
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108						93	
	Ventilation fan	100	0	2	CNP 241	108	111						96	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100						90	

Notes:

[1] Percentage on time within 30 minutes.

**Long Ha Tsuen Ancillary Building
(EAP/EEP)**

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (Whole Area)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117						
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112							
	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110							
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110							
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100							
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106							

Notes:

[1] Percentage on time within 30 minutes.

Road Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Road Works (AB7-a & AB7-b)	Compactor, vibratory	90	0	1	CNP 050	105	105	117						
	Roller, vibratory	60	-2	1	CNP 186	108	106							
	Asphalt paver	70	-2	1	CNP 004	109	107							
	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111							
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							

Notes:

[1] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB7-b)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	116						
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105							
	Grout mixer	60	-2	1	OCNP 021	90	88							
	Grout pump	60	-2	1	OCNP 022	105	103							
	Generator, portable	100	0	1	OCNP 023	100	100							

Notes:
 [1] Percentage on time within 30 minutes.

Retaining Walls					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Retaining Walls (AB7-b)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116						
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							

Notes:

[1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB7-b)	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113	116						
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111							
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98							
	Ventilation fan	100	0	2	CNP 241	108	111							

Notes:
 [1] Percentage on time within 30 minutes.

Shaft D&B, Adit and Underground Tunnel Works					Unmitigated				Mitigated						
Activity (Works Area)	PME [1]	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Shaft D&B, Adit and Underground Tunnel Works (AB-7b)	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110	114							
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100								
	Ventilation fan	100	0	2	CNP 241	108	111								
	Concrete lorry mixer	30	-5	1	CNP 044	109	104								
Shaft D&B, Adit and Underground Tunnel Works (AB7-c)	Jumbo 3 Booms	60		1											
	Jumbo 2 Booms	60		1											
	Dumper	40		2											
	Excavator/loader, wheeled/tracked (excavator)	60		1											
	Excavator/loader, wheeled/tracked (excavator)	60		1											
	Breaker, excavated mounted (hydraulic)	60		1											
	Rockbolter 2 Booms	60		1											
	Grout mixer	40		1											
	Grout pump	40		1											
	Grout pump	60		1											
	Grout pump	60		1											
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	60		1											
	Air compressor, air flow > 30 m3/min	50		2											
	Bulldozer	60		1											
	Generator, silenced, 75 dB(A) at 7 m	100		1											
	Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	60		1											
	Water pump, submersible (electric)	60		2											
Bar bender and cutter (electric)	60		1												
Concrete pump, stationary/lorry mounted	75		1												

Notes:

[1] PME in shaded cells will operate underground and are not included in the calculation.

[2] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB7-b)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117						
	Concrete lorry mixer	60	-2	2	CNP 044	109	110							
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113							
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108							
	Ventilation fan	100	0	2	CNP 241	108	111							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							

Notes:
 [1] Percentage on time within 30 minutes.

**Ngau Tam Mei Station (NTM),
Ngau Tam Mei Depot (NTD),
& Mined/ D&B/ C&C/
Tunnel: NTD > Underground
Tunnel**

Site Clearance, Preparation & Monitoring					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
Site Clearance, Preparation & Monitoring (NTM)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104		
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112						Barrier/ Acoustic Mat		-10	102
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111						Barrier/ Acoustic Mat		-5	95
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94			
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100		EPD-12048	101	Barrier/ Acoustic Mat	-5	95			
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88			

Notes:

[1] Percentage on time within 30 minutes.

Road Works						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Road Works (NTM R1)	A	Compactor, vibratory	90	0	1	CNP 050	105	105	105			Barrier/ Acoustic Mat	-10	95	95
	B	Roller, vibratory	60	-2	1	CNP 186	108	106	110	EPD-06997	94	Barrier/ Acoustic Mat	-5	87	98
		Asphalt paver	70	-2	1	CNP 004	109	107		EPD-11257	104	Barrier/ Acoustic Mat	-5	97	
Road Works (NTM R2)	A	Compactor, vibratory	90	0	1	CNP 050	105	105	105			Barrier/ Acoustic Mat	-10	95	95
	B	Roller, vibratory	60	-2	1	CNP 186	108	106	110	EPD-06997	94	Barrier/ Acoustic Mat	-5	87	98
		Asphalt paver	70	-2	1	CNP 004	109	107		EPD-11257	104	Barrier/ Acoustic Mat	-5	97	

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

NTM Site Formation Works - Cut and Fill Works					Unmitigated				Mitigated								
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
NTM Site Formation Works - Cut and Fill Works (NTM)	A	Excavator/loader, wheeled/tracked (excavator)	70	-2	4	CNP 081	112	116	121	EPD-07577	92	Barrier/ Acoustic Mat	-5	91	107		
		Bulldozer	80	-1	3	CNP 030	115	119		EPD-07836	105	Barrier/ Acoustic Mat	-5	104			
		Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 047	105	105		Barrier/ Acoustic Mat	-5	100					
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 046	105	105		Barrier/ Acoustic Mat	-5	100					
		Roller, vibratory	30	-5	3	CNP 186	108	108		EPD-06997	94	Barrier/ Acoustic Mat	-5	89			
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	Barrier/ Acoustic Mat	-5	90			
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	Barrier/ Acoustic Mat	-5	90			
	B	Bar bender and cutter (electric)	60	-2	3	CNP 021	90	93	119	Other 007	102	Barrier/ Acoustic Mat	-5	93	106		
		Concrete lorry mixer	30	-5	3	CNP 044	109	109				Barrier/ Acoustic Mat	-10	96			
		Poker, vibratory, hand-held	50	-3	5	CNP 170	113	117				Enclosure	-15	98			
		Concrete pump, stationary/lorry mounted	75	-1	3	CNP 047	109	113				Barrier/ Acoustic Mat	-5	104			
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100				EPD-00592R	90	Barrier/ Acoustic Mat		-5	90
		Crane, mobile/barge mounted (diesel)	45	-3	1	CNP 048	112	109				EPD-12240	101	Barrier/ Acoustic Mat		-5	93
		Crane, mobile/barge mounted (diesel)	45	-3	1	CNP 048	112	109				EPD-12240	101	Barrier/ Acoustic Mat		-5	93

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

D-wall and Piling Trial					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
D-wall and Piling Trial (NTM 1-8, 8-20 & 20-24)	Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	111			Barrier/ Acoustic Mat	-10	93	102
	Piling, diaphragm wall, hydraulic extractor	60	-2	1	CNP 163	90	88						88	
	Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85						85	
	Piling, earth auger, auger	30	-5	1	CNP 167	114	109						99	
	Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105						95	
	Grout mixer	30	-5	1	OCNP 021	90	85						85	
	Grout pump	30	-5	1	OCNP 022	105	100						90	

Notes:

[1] Percentage on time within 30 minutes.

D-wall, Piling and Excavation					Unmitigated					Mitigated															
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)										
D-wall, Piling and Excavation (NTM 1-8)	A	Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	113				Barrier/ Acoustic Mat	-10	93	106									
		Piling, diaphragm wall, hydraulic extractor	60	-2	5	CNP 163	90	95																	
		Concrete lorry mixer	30	-5	3	CNP 044	109	109																	
		Bar bender and cutter (electric)	30	-5	5	CNP 021	90	92																	
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105																	
		Grout mixer	30	-5	1	OCNP 021	90	85																	
		Grout pump	30	-5	1	OCNP 022	105	100																	
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105																	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100																	
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107																	
	B	Piling, earth auger, auger	30	-5	6	CNP 167	114	117	118				Barrier/ Acoustic Mat	-10	107	108									
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105																	
		Air compressor, air flow > 30 m3/min	50	-3	3	CNP 003	104	106																	
		Grout mixer	30	-5	1	OCNP 021	90	85																	
		Grout pump	60	-2	1	OCNP 022	105	103																	
		Generator, silenced, 75 dB(A) at 7 m	100	0	3	CNP 102	100	105																	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100																	
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107																	
		C	Excavator/loader, wheeled/tracked (excavator)	60	-2	3	CNP 081	112					115	117	EPD-07577		92	Barrier/ Acoustic Mat	-5	90	107				
			Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 042	105					108												
	Generator, silenced, 75 dB(A) at 7 m		100	0	3	CNP 102	100	105																	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne		30	-5	3	OCNP 046	105	105																	
	Concrete lorry mixer		30	-5	3	CNP 044	109	109																	
	Crane, mobile/barge mounted (diesel)		30	-5	1	CNP 048	112	107																	
	Water pump, submersible (electric)		40	-4	3	CNP 283	85	86																	
	D-wall, Piling and Excavation (NTM 8-20)		A	Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	112											Barrier/ Acoustic Mat	-10	93	105
				Piling, diaphragm wall, hydraulic extractor	60	-2	4	CNP 163	90	94															
Concrete lorry mixer				30	-5	2	CNP 044	109	107																
Bar bender and cutter (electric)		30		-5	4	CNP 021	90	91																	
Drill rig, rotary type (diesel)		30		-5	1	OCNP 015	110	105																	
Grout mixer		30		-5	1	OCNP 021	90	85																	
Grout pump		30		-5	1	OCNP 022	105	100																	
Generator, silenced, 75 dB(A) at 7 m		100		0	1	CNP 102	100	100																	
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne		30		-5	1	OCNP 046	105	100																	
Crane, mobile/barge mounted (diesel)		30		-5	1	CNP 048	112	107																	
B		Piling, earth auger, auger	30	-5	4	CNP 167	114	115	116				Barrier/ Acoustic Mat	-10	105	106									
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105																	
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104																	
		Grout mixer	30	-5	1	OCNP 021	90	85																	
		Grout pump	60	-2	1	OCNP 022	105	103																	
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100																	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100																	
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107																	
		C	Excavator/loader, wheeled/tracked (excavator)	60	-2	3	CNP 081	112					115	117	EPD-07577		92	Barrier/ Acoustic Mat	-5	90	107				
			Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 042	105					108												
Generator, silenced, 75 dB(A) at 7 m			100	0	3	CNP 102	100	105																	
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			30	-5	3	OCNP 046	105	105																	
Concrete lorry mixer			30	-5	3	CNP 044	109	109																	
Crane, mobile/barge mounted (diesel)			30	-5	1	CNP 048	112	107																	
Water pump, submersible (electric)			40	-4	3	CNP 283	85	86																	
D-wall, Piling and Excavation (NTM 20-24)			A	Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	112											Barrier/ Acoustic Mat	-10	93	103
				Piling, diaphragm wall, hydraulic extractor	60	-2	2	CNP 163	90	91															
	Concrete lorry mixer			30	-5	1	CNP 044	109	104																
	Bar bender and cutter (electric)	30		-5	2	CNP 021	90	88																	
	Drill rig, rotary type (diesel)	30		-5	1	OCNP 015	110	105																	
	Grout mixer	30		-5	1	OCNP 021	90	85																	
	Grout pump	30		-5	1	OCNP 022	105	100																	
	Generator, silenced, 75 dB(A) at 7 m	100		0	1	CNP 102	100	100																	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30		-5	1	OCNP 046	105	100																	
	Crane, mobile/barge mounted (diesel)	30		-5	1	CNP 048	112	107																	
	B	Piling, earth auger, auger	30	-5	2	CNP 167	114	112	114				Barrier/ Acoustic Mat	-10	102	104									
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105																	
		Air compressor, air flow > 30 m3/min	50	-3	1	CNP 003	104	101																	
		Grout mixer	30	-5	1	OCNP 021	90	85																	
		Grout pump	60	-2	1	OCNP 022	105	103																	
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100																	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100																	
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107																	
		C	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112					110	113	EPD-07577		92	Barrier/ Acoustic Mat	-5	85	103				
			Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 042	105					103												
	Generator, silenced, 75 dB(A) at 7 m		100	0	1	CNP 102	100	100																	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne		30	-5	1	OCNP 046	105	100																	
	Concrete lorry mixer		30	-5	1	CNP 044	109	104																	
	Crane, mobile/barge mounted (diesel)		30	-5	1	CNP 048	112	107																	
	Water pump, submersible (electric)		40	-4	1	CNP 283	85	81																	

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

RC Structures					Unmitigated				Mitigated								
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)			
RC Structures (NTM 1-8)	Crane, mobile/barge mounted (diesel)	30	-5	3	CNP 048	112	112	118	EPD-12240	101	Barrier/ Acoustic Mat	-5	96	106			
	Concrete lorry mixer	30	-5	3	CNP 044	109	109										
	Poker, vibratory, hand-held	30	-5	4	CNP 170	113	114								Other 007	102	Barrier/ Acoustic Mat
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107										
	Ventilation fan	100	0	2	CNP 241	108	111		EPD-00592R	90	Enclosure	-15	96				
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90										
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100								Barrier/ Acoustic Mat	-5	85
	Bar bender and cutter (electric)	60	-2	3	CNP 021	90	93										
RC Structures (NTM 8-20)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	117	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	104			
	Concrete lorry mixer	30	-5	2	CNP 044	109	107										
	Poker, vibratory, hand-held	30	-5	3	CNP 170	113	113								Other 007	102	Barrier/ Acoustic Mat
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107										
	Ventilation fan	100	0	2	CNP 241	108	111		EPD-00592R	90	Enclosure	-15	96				
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100										
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91								Barrier/ Acoustic Mat	-5	85
RC Structures (NTM 20-24)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	117	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	104			
	Concrete lorry mixer	30	-5	2	CNP 044	109	107										
	Poker, vibratory, hand-held	30	-5	3	CNP 170	113	113								Other 007	102	Barrier/ Acoustic Mat
	Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107										
	Ventilation fan	100	0	2	CNP 241	108	111		EPD-00592R	90	Enclosure	-15	96				
	Hoist, passenger/material (electric)	30	-5	1	CNP 122	95	90										
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100								Barrier/ Acoustic Mat	-5	85
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91										

Notes:

[1] Percentage on time within 30 minutes.

Structural Steel Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Structural Steel Works (NTM 8-20)	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	97
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	100						

Notes:

[1] Percentage on time within 30 minutes.

Site Clearance, Preparation & Monitoring					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance, Preparation & Monitoring (NTD-1)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112							
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111							
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110							
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100							
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107							
Site Clearance, Preparation & Monitoring (NTD-2)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112							
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111							
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110							
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100							
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107							
Site Clearance, Preparation & Monitoring (NTD-3)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112							
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111							
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110							
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100							
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107							

Notes:

[1] Percentage on time within 30 minutes.

UU and Haul Road					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU and Haul Road (NTD-R1)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	102
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104				Barrier/ Acoustic Mat	-5	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100				EPD-00592R	90	90	
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108				Other 007	102	Barrier/ Acoustic Mat	

Notes:

[1] Percentage on time within 30 minutes.

UU and Roadworks						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU and Roadworks (NTD-R1)	A	Compactor, vibratory	90	0	1	CNP 050	105	105	112	EPD-06997	94	Barrier/ Acoustic Mat	-10	95	103
		Roller, vibratory	60	-2	1	CNP 186	108	106							
		Asphalt paver	70	-2	1	CNP 004	109	107							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	B	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	100
		Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
		Concrete lorry mixer	30	-5	1	CNP 044	109	104							
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
			Other 007	102	102	Barrier/ Acoustic Mat	-10	87							

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

Backfilling works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Backfilling works (NTD-1)	Bulldozer	80	-1	6	CNP 030	115	122	124	EPD-07836	105	Barrier/ Acoustic Mat	-5	107	110
	Excavator/loader, wheeled/tracked (loader)	60	-2	6	CNP 081	112	118		EPD-12048	101	Barrier/ Acoustic Mat	-5	102	
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	60	-2	6	OCNP 047	105	111				Barrier/ Acoustic Mat	-5	106	
	Roller, vibratory	30	-5	6	CNP 186	108	111		EPD-06997	94	Barrier/ Acoustic Mat	-5	92	

Notes:

[1] Percentage on time within 30 minutes.

Open Excavation works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Open Excavation works (NTD-2)	Excavator/loader, wheeled/tracked (excavator)	70	-2	4	CNP 081	112	116	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	91	101
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	4	OCNP 047	105	106	106						
Open Excavation works (NTD-3)	Excavator/loader, wheeled/tracked (excavator)	70	-2	4	CNP 081	112	116	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	91	101
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	4	OCNP 047	105	106	106						

Notes:

[1] Percentage on time within 30 minutes.

NTD Retaining Wall Construction					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
NTD Retaining Wall Construction, South (NTD-RW(S))	Piling, earth auger, auger	60	-2	4	CNP 167	114	118	121			Barrier/ Acoustic Mat	-10	108	110	
	Drill rig, rotary type (diesel)	60	-2	1		110	108				Barrier/ Acoustic Mat	-10	98		
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105		EPD-09708	94	Barrier/ Acoustic Mat	-10	85		
	Grout mixer	30	-5	1	OCNP 021	90	85						85		
	Grout pump	30	-5	1	OCNP 022	105	100				Barrier/ Acoustic Mat	-10	90		
	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113		EPD-07577	92	Barrier/ Acoustic Mat	-5	88		
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90		
	Concrete lorry mixer	30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102		
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91							91	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113		Other 007	102	Barrier/ Acoustic Mat	-10	92		
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108				Enclosure	-15	93		
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96		
	NTD Retaining Wall Construction, East (NTD-RW(E))	Piling, vibrating hammer	60	-2	5	OCNP 026	115	120	123	Other 001	94			99	105
		Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94	
Excavator/loader, wheeled/tracked (excavator)		60	-2	5	CNP 081	112	117		EPD-07577	92	Barrier/ Acoustic Mat	-5	92		
Generator, silenced, 75 dB(A) at 7 m		100	0	1	CNP 102	100	100		EPD-00592R	90			90		
Concrete lorry mixer		30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102		
Bar bender and cutter (electric)		60	-2	2	CNP 021	90	91						91		
Poker, vibratory, hand-held		50	-3	2	CNP 170	113	113		Other 007	102	Barrier/ Acoustic Mat	-10	92		
Concrete pump, stationary/lorry mounted		75	-1	1	CNP 047	109	108				Enclosure	-15	93		
NTD Retaining Wall Construction, North (NTD-RW(N))		Piling, vibrating hammer	60	-2	1	OCNP 026	115	113	119	Other 001	94			92	104
	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94		
	Excavator/loader, wheeled/tracked (excavator)	60	-2	3	CNP 081	112	115		EPD-07577	92	Barrier/ Acoustic Mat	-5	90		
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90		
	Concrete lorry mixer	30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102		
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91						91		
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113		Other 007	102	Barrier/ Acoustic Mat	-10	92		
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108				Enclosure	-15	93		

Notes:

[1] Percentage on time within 30 minutes.

NTD Bored Pile Wall Construction					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Bored Pile Wall Construction, West (NTD-BPW(W))	Piling, larger diameter bored, grab and chisel	60	-2	4	CNP 164	115	119	122			Barrier/ Acoustic Mat	-10	109	112
	Piling, larger diameter bored, reverse circulation drill	60	-2	4		100	104				Barrier/ Acoustic Mat	-10	94	
	Piling, larger diameter bored, oscillator	60	-2	4	CNP 165	115	119				Barrier/ Acoustic Mat	-10	109	
	Bar bender and cutter (electric)	60	-2	4	CNP 021	90	94							94
	Concrete lorry mixer	30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108				Enclosure	-15	93	

Note:

[1] Percentage on time within 30 minutes.

Foundation Works for Deck Enclosure					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works for Deck Enclosure (NTD-1)	Piling, earth auger, auger	30	-5	4	CNP 167	114	115	116			Barrier/ Acoustic Mat	-10	105	106
	Drill rig, rotary type (diesel)	30	-5	2		110	108				Barrier/ Acoustic Mat	-10	98	
	Grout mixer	30	-5	2	OCNP 021	90	88						88	
	Grout pump	30	-5	2	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104		EPD-09708	94	Barrier/ Acoustic Mat	-10	84	
Foundation Works for Deck Enclosure (NTD-2)	Piling, earth auger, auger	30	-5	4	CNP 167	114	115	116			Barrier/ Acoustic Mat	-10	105	106
	Drill rig, rotary type (diesel)	30	-5	2	OCNP 015	110	108				Barrier/ Acoustic Mat	-10	98	
	Grout mixer	30	-5	2	OCNP 021	90	88						88	
	Grout pump	30	-5	2	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104		EPD-09708	94	Barrier/ Acoustic Mat	-10	84	
Foundation Works for Deck Enclosure (NTD-3)	Piling, earth auger, auger	30	-5	4	CNP 167	114	115	116			Barrier/ Acoustic Mat	-10	105	106
	Drill rig, rotary type (diesel)	30	-5	2	OCNP 015	110	108				Barrier/ Acoustic Mat	-10	98	
	Grout mixer	30	-5	2	OCNP 021	90	88						88	
	Grout pump	30	-5	2	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104		EPD-09708	94	Barrier/ Acoustic Mat	-10	84	

Notes:

[1] Percentage on time within 30 minutes.

NTD RC Structures					Unmitigated				Mitigated										
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)					
NTD RC Structures (NTD-1)	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107	116	EPD-12240	101	Barrier/ Acoustic Mat	-5	91	102					
	Concrete lorry mixer	30	-5	1	CNP 044	109	104												
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113								Other 007	102	Barrier/ Acoustic Mat	-10	92
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108								EPD-00592R	90	Enclosure	-15	93
	Ventilation fan	100	0	1	CNP 241	108	108												
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100												
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88												
NTD RC Structures (NTD-2)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	119	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	105					
	Concrete lorry mixer	30	-5	2	CNP 044	109	107												
	Poker, vibratory, hand-held	50	-3	3	CNP 170	113	115								Other 007	102	Barrier/ Acoustic Mat	-10	94
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108								EPD-00592R	90	Enclosure	-15	93
	Ventilation fan	100	0	3	CNP 241	108	113												
	Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103												
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91												
NTD RC Structures (NTD-3)	Crane, mobile/barge mounted (diesel)	30	-5	2	CNP 048	112	110	119	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	105					
	Concrete lorry mixer	30	-5	2	CNP 044	109	107												
	Poker, vibratory, hand-held	50	-3	3	CNP 170	113	115								Other 007	102	Barrier/ Acoustic Mat	-10	94
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108								EPD-00592R	90	Enclosure	-15	93
	Ventilation fan	100	0	3	CNP 241	108	113												
	Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103												
	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91												

Notes:

[1] Percentage on time within 30 minutes.

Mined Tunnel NTD to Underground Tunnel (NTD > Underground Tunnel)					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Mined Tunnel NTD to Underground Tunnel (NTD > Underground Tunnel)	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110	114	EPD-12048	101	Barrier/ Acoustic Mat	-5	94	102
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100				Barrier/ Acoustic Mat	-5	95	
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	

Notes:

[1] Percentage on time within 30 minutes.

NTD C&C Tunnel					Unmitigated				Mitigated							
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
NTD C&C Tunnel (NTD > Underground Tunnel)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	120			Barrier/ Acoustic Mat	-10	105	108		
	Drill rig, rotary type (diesel)	60	-2	2	OCNP 015	110	111									
	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110				EPD-07577	92	Barrier/ Acoustic Mat		-5	85
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107				EPD-12240	101	Barrier/ Acoustic Mat		-5	91
	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110				EPD-12048	101	Barrier/ Acoustic Mat		-5	94
	Grout mixer	40	-4	1	OCNP 021	90	86									86
	Grout pump	40	-4	1	OCNP 022	105	101						Barrier/ Acoustic Mat		-10	91
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 046	105	103						Barrier/ Acoustic Mat		-5	98
	Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat		-10	84
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107				EPD-12240	101	Barrier/ Acoustic Mat		-5	91
	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106						Enclosure		-15	91
	Ventilation fan	100	0	2	CNP 241	108	111						Silencer		-15	96
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100				EPD-00592R	90				90
	Concrete lorry mixer	30	-5	1	CNP 044	109	104						Barrier/ Acoustic Mat		-5	99
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88									88

Notes:

[1] Percentage on time within 30 minutes.

D&B Tunnel NTD to Underground Tunnel (NTD > Underground Tunnel)					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
D&B Tunnel NTD to Underground Tunnel (NTD > Underground Tunnel)	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110	114	EPD-12048	101	Barrier/ Acoustic Mat	-5	94	102
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 044	105	100				Barrier/ Acoustic Mat	-5	95	
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	

Notes:

[1] Percentage on time within 30 minutes.

NTD C&C Tunnel Remaining works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
NTD C&C Tunnel Remaining works (NTD > Underground Tunnel)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	120			Barrier/ Acoustic Mat	-10	105	108
	Drill rig, rotary type (diesel)	60	-2	2	OCNP 015	110	111				Barrier/ Acoustic Mat	-10	101	
	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110		EPD-07577	92	Barrier/ Acoustic Mat	-5	85	
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107		EPD-12240	101	Barrier/ Acoustic Mat	-5	91	
	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Grout mixer	40	-4	1	OCNP 021	90	86						86	
	Grout pump	40	-4	1	OCNP 022	105	101				Barrier/ Acoustic Mat	-10	91	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 046	105	103				Barrier/ Acoustic Mat	-5	98	
	Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104		EPD-09708	94	Barrier/ Acoustic Mat	-10	84	
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107		EPD-12240	101	Barrier/ Acoustic Mat	-5	91	
	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106				Enclosure	-15	91	
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90			90	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88						88	

Notes:

[1] Percentage on time within 30 minutes.

NTD C&C Tunnel Remaining works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
NTS Tunnel - Backfilling (C&C Tunnel: NTS > Underground Tunnel)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	101
	Excavator/loader, wheeled/tracked (loader)	80	-1	1	CNP 081	112	111		EPD-12048	101	Barrier/ Acoustic Mat	-5	95	
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	40	-4	2	OCNP 047	105	104				Barrier/ Acoustic Mat	-5	99	
	Roller, vibratory	30	-5	1	CNP 186	108	103		EPD-06997	94	Barrier/ Acoustic Mat	-5	84	
	Compactor, vibratory	40	-4	1	CNP 050	105	101				Barrier/ Acoustic Mat	-10	91	

Notes:

[1] Percentage on time within 30 minutes.

**San Tin Station (SAT) &
San Tin Ancillary Building (EEP/VB)**

Site Clearance, Preparation & Monitoring					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance, Preparation & Monitoring (SAT)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/ barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	
Site Clearance, Preparation & Monitoring (SAT R1)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/ barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	
Site Clearance, Preparation & Monitoring (SAT R2)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/ barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	
Site Clearance, Preparation & Monitoring (SAT Ex)	Excavator/loader, wheeled/tracked (excavator)	80	-1	2	CNP 081	112	114	119	EPD-07577	92	Barrier/ Acoustic Mat	-5	89	104
	Saw, chain, hand-held	70	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/ barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	80	-1	1	CNP 023	108	107		EPD-12553	99	Barrier/ Acoustic Mat	-10	88	

Notes:

[1] Percentage on time within 30 minutes.

Site Formation Works (Backfilling)					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Formation Works (Backfilling) (SAT)	Bulldozer	80	-1	3	CNP 030	115	119	119	EPD-07836	105	Barrier/ Acoustic Mat	-5	104	106
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 047	105	105				Barrier/ Acoustic Mat	-5	100	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	3	OCNP 046	105	105	Barrier/ Acoustic Mat	-5	100				
	Roller, vibratory	30	-5	3	CNP 186	108	108	EPD-06997	94	Barrier/ Acoustic Mat	-5	89		

Notes:

[1] Percentage on time within 30 minutes.

Road Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Road Works (SAT R1)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	102
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
Road Works (SAT R2)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	114	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	102
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							

Notes:

[1] Percentage on time within 30 minutes.

D-wall, Piling & Excavation						Unmitigated				Mitigated										
Activity (Works Area)	Group (1)	PME	% Operating Time (%)	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)					
D-wall & Piling Trial (SAT)		Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	111			Barrier/ Acoustic Mat	-10	93	102					
		Piling, diaphragm wall, hydraulic extractor	60	-2	1	CNP 163	90	88	88											
		Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85	85											
		Piling, earth auger, auger	30	-5	1	CNP 167	114	109	99											
		Drill rig, rotary type (diesel)	30	-5	1	OCNP 015	110	105	95											
		Grout mixer	30	-5	1	OCNP 021	90	85	85											
		Grout pump	30	-5	1	OCNP 022	105	100	90											
D-wall, Piling & Excavation (SAT N19-N27)		Piling, diaphragm wall, bentonite filtering plant	60	-2	2	CNP 162	105	106	121			Barrier/ Acoustic Mat	-10	96	111					
		Piling, diaphragm wall, hydraulic extractor	60	-2	6	CNP 163	90	96	96											
		Bar bender and cutter (electric)	30	-5	6	CNP 021	90	93	93											
		Piling, earth auger, auger	30	-5	6	CNP 167	114	117	107											
		Drill rig, rotary type (diesel)	30	-5	4	OCNP 015	110	111	101											
		Grout mixer	30	-5	2	OCNP 021	90	88	88											
		Grout pump	30	-5	2	OCNP 022	105	103	93											
		Excavator/loader, wheeled/tracked (excavator)	30	-5	4	CNP 081	112	113	88											
		Air compressor, air flow > 30 m3/min	50	-3	6	CNP 003	104	109	88											
		Generator, silenced, 75 dB(A) at 7 m	100	0	4	CNP 102	100	106	89											
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 046	105	108	96											
		Concrete lorry mixer	30	-5	6	CNP 044	109	112	103											
		Crane, mobile/ barge mounted (diesel)	30	-5	2	CNP 048	112	110	107											
		Water pump, submersible (electric)	40	-4	6	CNP 283	85	89	94											
		D-wall, Piling & Excavation (SAT N1-N19)		Piling, diaphragm wall, bentonite filtering plant	60	-2	3	CNP 162	105					108	122			Barrier/ Acoustic Mat	-10	98
Piling, diaphragm wall, hydraulic extractor	60			-2	8	CNP 163	90	97	97											
Bar bender and cutter (electric)	30			-5	8	CNP 021	90	94	94											
Piling, earth auger, auger	30			-5	8	CNP 167	114	118	108											
Drill rig, rotary type (diesel)	30			-5	6	OCNP 015	110	113	103											
Grout mixer	30			-5	4	OCNP 021	90	91	91											
Grout pump	30			-5	4	OCNP 022	105	106	96											
Excavator/loader, wheeled/tracked (excavator)	30			-5	6	CNP 081	112	115	90											
Air compressor, air flow > 30 m3/min	50			-3	4	CNP 003	104	107	87											
Generator, silenced, 75 dB(A) at 7 m	100			0	6	CNP 102	100	108	98											
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30			-5	8	OCNP 046	105	109	104											
Concrete lorry mixer	30			-5	8	CNP 044	109	113	108											
Crane, mobile/ barge mounted (diesel)	30			-5	4	CNP 048	112	113	107											
Water pump, submersible (electric)	40			-4	12	CNP 283	85	92	97											
D-wall, Piling & Excavation (SAT Station 1-32-a)	A			Piling, diaphragm wall, bentonite filtering plant	60	-2	2	CNP 162	105	106	120			Barrier/ Acoustic Mat	-10					96
		Piling, diaphragm wall, hydraulic extractor	60	-2	10	CNP 163	90	98	98											
		Bar bender and cutter (electric)	30	-5	10	CNP 021	90	95	95											
		Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110	100											
		Grout mixer	30	-5	6	OCNP 021	90	93	93											
		Grout pump	30	-5	6	OCNP 022	105	108	98											
		Excavator/loader, wheeled/tracked (excavator)	30	-5	6	CNP 081	112	115	90											
		Generator, silenced, 75 dB(A) at 7 m	100	0	4	CNP 102	100	106	96											
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 046	105	108	103											
		Concrete lorry mixer	30	-5	6	CNP 044	109	112	107											
		Crane, mobile/ barge mounted (diesel)	30	-5	6	CNP 048	112	115	99											
		Water pump, submersible (electric)	40	-4	6	CNP 283	85	89	89											
		B	Bar bender and cutter (electric)	30	-5	10	CNP 021	90	95	123							Barrier/ Acoustic Mat	-10	95	113
			Piling, earth auger, auger	30	-5	11	CNP 167	114	119	109										
			Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110	100										
	Grout mixer		30	-5	6	OCNP 021	90	93	93											
	Grout pump		30	-5	6	OCNP 022	105	108	98											
	Excavator/loader, wheeled/tracked (excavator)		30	-5	6	CNP 081	112	115	90											
	Air compressor, air flow > 30 m3/min		50	-3	6	CNP 003	104	109	89											
	Generator, silenced, 75 dB(A) at 7 m		100	0	4	CNP 102	100	106	96											
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne		30	-5	6	OCNP 046	105	108	103											
	Concrete lorry mixer		30	-5	6	CNP 044	109	112	107											
	Crane, mobile/ barge mounted (diesel)		30	-5	6	CNP 048	112	115	99											
	Water pump, submersible (electric)		40	-4	6	CNP 283	85	89	89											
	D-wall, Piling & Excavation (SAT Station 1-32-b)	A	Piling, diaphragm wall, bentonite filtering plant	60	-2	2	CNP 162	105	106	120			Barrier/ Acoustic Mat	-10	96	110				
			Piling, diaphragm wall, hydraulic extractor	60	-2	10	CNP 163	90	98	98										
			Bar bender and cutter (electric)	30	-5	10	CNP 021	90	95	95										
Drill rig, rotary type (diesel)			30	-5	3	OCNP 015	110	110	100											
Grout mixer			30	-5	6	OCNP 021	90	93	93											
Grout pump			30	-5	6	OCNP 022	105	108	98											
Excavator/loader, wheeled/tracked (excavator)			30	-5	6	CNP 081	112	115	90											
Generator, silenced, 75 dB(A) at 7 m			100	0	4	CNP 102	100	106	96											
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			30	-5	6	OCNP 046	105	108	103											
Concrete lorry mixer			30	-5	6	CNP 044	109	112	107											
Crane, mobile/ barge mounted (diesel)			30	-5	6	CNP 048	112	115	99											
Water pump, submersible (electric)			40	-4	6	CNP 283	85	89	89											
B			Bar bender and cutter (electric)	30	-5	10	CNP 021	90	95	123							Barrier/ Acoustic Mat	-10	95	113
			Piling, earth auger, auger	30	-5	11	CNP 167	114	119	109										
			Drill rig, rotary type (diesel)	30	-5	3	OCNP 015	110	110	100										
		Grout mixer	30	-5	6	OCNP 021	90	93	93											
		Grout pump	30	-5	6	OCNP 022	105	108	98											
		Excavator/loader, wheeled/tracked (excavator)	30	-5	6	CNP 081	112	115	90											
		Air compressor, air flow > 30 m3/min	50	-3	6	CNP 003	104	109	89											
		Generator, silenced, 75 dB(A) at 7 m	100	0	4	CNP 102	100	106	96											
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	6	OCNP 046	105	108	103											
		Concrete lorry mixer	30	-5	6	CNP 044	109	112	107											
		Crane, mobile/ barge mounted (diesel)	30	-5	6	CNP 048	112	115	99											
		Water pump, submersible (electric)	40	-4	6	CNP 283	85	89	89											

D-wall, Piling & Excavation						Unmitigated				Mitigated								
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)			
D-wall, Piling & Excavation (SAT S9-1)		Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105	103	119			Barrier/ Acoustic Mat	-10	93	109			
		Piling, diaphragm wall, hydraulic extractor	60	-2	2	CNP 163	90	91								91		
		Bar bender and cutter (electric)	30	-5	2	CNP 021	90	88								88		
		Piling, earth auger, auger	30	-5	4	CNP 167	114	115					Barrier/ Acoustic Mat	-10		105		
		Drill rig, rotary type (diesel)	30	-5	2	OCNP 015	110	108					Barrier/ Acoustic Mat	-10		98		
		Grout mixer	30	-5	2	OCNP 021	90	88								88		
		Grout pump	30	-5	2	OCNP 022	105	103								103		
		Excavator/loader, wheeled/tracked (excavator)	30	-5	2	CNP 081	112	110				EPD-07577	92	Barrier/ Acoustic Mat		-10	93	
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat		-5	85	
		Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103				EPD-00592R	90	Barrier/ Acoustic Mat		-10	84	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	4	OCNP 046	105	106						Barrier/ Acoustic Mat		-5	101	
		Concrete lorry mixer	30	-5	2	CNP 044	109	107						Barrier/ Acoustic Mat		-5	102	
		Crane, mobile/ barge mounted (diesel)	30	-5	2	CNP 048	112	110				EPD-12240	101	Barrier/ Acoustic Mat		-5	94	
		Water pump, submersible (electric)	40	-4	4	CNP 283	85	87						Barrier/ Acoustic Mat		-5	87	
	D-wall, Piling & Excavation (SAT S1-S9)		Piling, diaphragm wall, bentonite filtering plant	60	-2	1	CNP 162	105		103	117			Barrier/ Acoustic Mat		-10	93	107
			Piling, diaphragm wall, hydraulic extractor	60	-2	3	CNP 163	90		93								
		Bar bender and cutter (electric)	30	-5	3	CNP 021	90	90							90			
		Piling, earth auger, auger	30	-5	2	CNP 167	114	112						Barrier/ Acoustic Mat	-10	102		
		Drill rig, rotary type (diesel)	30	-5	2	OCNP 015	110	108						Barrier/ Acoustic Mat	-10	98		
		Grout mixer	30	-5	1	OCNP 021	90	85							85			
		Grout pump	30	-5	1	OCNP 022	105	100							100			
		Excavator/loader, wheeled/tracked (excavator)	30	-5	2	CNP 081	112	110				EPD-07577	92	Barrier/ Acoustic Mat	-10	90		
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat	-5	85		
		Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103				EPD-00592R	90	Barrier/ Acoustic Mat	-10	84		
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 046	105	103						Barrier/ Acoustic Mat	-5	98		
		Concrete lorry mixer	30	-5	2	CNP 044	109	107						Barrier/ Acoustic Mat	-5	102		
		Crane, mobile/ barge mounted (diesel)	30	-5	2	CNP 048	112	110				EPD-12240	101	Barrier/ Acoustic Mat	-5	94		
		Water pump, submersible (electric)	40	-4	2	CNP 283	85	84						Barrier/ Acoustic Mat	-5	84		

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.
 [2] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (SAT N19-N27)	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107	116	EPD-12240	101	Barrier/ Acoustic Mat	-5	91	103
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Poker, vibratory, hand-held	30	-5	2	CNP 170	113	111							
	Concrete pump, stationary/lorry mounted	30	-5	1	CNP 047	109	104							
	Ventilation fan	100	0	3	CNP 241	108	113							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Bar bender and cutter (electric)	60	-2	3	CNP 021	90	93							
RC Works (SAT N1-N19)	Crane, mobile/barge mounted (diesel)	30	-5	5	CNP 048	112	114	121	EPD-12240	101	Barrier/ Acoustic Mat	-5	98	108
	Concrete lorry mixer	30	-5	5	CNP 044	109	111							
	Poker, vibratory, hand-held	30	-5	6	CNP 170	113	116							
	Concrete pump, stationary/lorry mounted	30	-5	5	CNP 047	109	111							
	Ventilation fan	100	0	5	CNP 241	108	115							
	Generator, silenced, 75 dB(A) at 7 m	100	0	5	CNP 102	100	107							
	Bar bender and cutter (electric)	60	-2	5	CNP 021	90	95							
RC Works (SAT 1-32)	Crane, mobile/barge mounted (diesel)	30	-5	7	CNP 048	112	115	122	EPD-12240	101	Barrier/ Acoustic Mat	-5	99	110
	Concrete lorry mixer	30	-5	7	CNP 044	109	112							
	Poker, vibratory, hand-held	30	-5	10	CNP 170	113	118							
	Air compressor, air flow > 30 m3/min	30	-5	7	CNP 003	104	107							
	Concrete pump, stationary/lorry mounted	30	-5	3	CNP 047	109	109							
	Ventilation fan	100	0	7	CNP 241	108	116							
	Hoist, passenger/material (electric)	30	-5	2	CNP 122	95	93							
	Generator, silenced, 75 dB(A) at 7 m	100	0	4	CNP 102	100	106							
	Bar bender and cutter (electric)	60	-2	7	CNP 021	90	96							
RC Works (SAT S9-1)	Crane, mobile/barge mounted (diesel)	30	-5	5	CNP 048	112	114	121	EPD-12240	101	Barrier/ Acoustic Mat	-5	98	108
	Concrete lorry mixer	30	-5	5	CNP 044	109	111							
	Poker, vibratory, hand-held	30	-5	6	CNP 170	113	116							
	Concrete pump, stationary/lorry mounted	30	-5	5	CNP 047	109	111							
	Ventilation fan	100	0	5	CNP 241	108	115							
	Generator, silenced, 75 dB(A) at 7 m	100	0	5	CNP 102	100	107							
	Bar bender and cutter (electric)	60	-2	5	CNP 021	90	95							
RC Works (SAT S1-S9)	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107	116	EPD-12240	101	Barrier/ Acoustic Mat	-5	91	103
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Poker, vibratory, hand-held	30	-5	2	CNP 170	113	111							
	Concrete pump, stationary/lorry mounted	30	-5	1	CNP 047	109	104							
	Ventilation fan	100	0	3	CNP 241	108	113							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Bar bender and cutter (electric)	60	-2	3	CNP 021	90	93							

Notes:

[1] Percentage on time within 30 minutes.

TBM Tunnel SAT to NTM					Unmitigated				Mitigated					
Activity (Works Area)	PME [1] [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
TBM Tunnel SAT to NTM (SAT S1-S9)	Crane, tower (electric)	30	-5	1	CNP 049	95	90	113	EPD-12240 EPD-09708	101 94	Barrier/ Acoustic Mat	-5	85	104
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107				Barrier/ Acoustic Mat	-5	91	
	Air compressor, air flow > 30 m3/min	50	-3	1	CNP 003	104	101				Barrier/ Acoustic Mat	-10	81	
	Slurry treatment plant (for slurry-TBM only)	80	-1	1	CNP 162	105	104				Barrier/ Acoustic Mat	-10	94	
	Conveyor belt	100	0	1	CNP 041	90	90						90	
	Ventilation fan	100	0	1	CNP 241	108	108				Silencer	-15	93	
	Concrete pump, stationary/lorry mounted	30	-5	1	CNP 047	109	104				Enclosure	-15	89	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 046	105	104				Barrier/ Acoustic Mat	-5	99	
	TBM (Slurry or EPB type) & back up	100		1										
	Locomotive	60		1										

Notes:

[1] Ventilation fan and conveyor belt will not operate concurrently. The larger SWL is adopted for calculation.

[2] PME in shaded cells will operate underground and are not included in the calculation.

[3] Percentage on time within 30 minutes.

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (SAT AB)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	104
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/ barge mounted (diesel)	60	-2	1	CNP 048	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106		EPD-12553	99	Barrier/ Acoustic Mat	-10	87	

Notes:

[1] Percentage on time within 30 minutes.

UU, Road Works & Site Formation					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
UU, Road Works & Site Formation (SAT AB)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	103	
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113		Other 001	94	Barrier/ Acoustic Mat	-10	82		
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104				Barrier/ Acoustic Mat	-5	99		
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99		
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100	EPD-00592R	90				90		
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88								88
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108		Other 007	102	Barrier/ Acoustic Mat	-10	87		

Notes:

[1] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (SAT AB)	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113	113			Barrier/ Acoustic Mat	-10	103	103

Notes:

[1] Percentage on time within 30 minutes.

Foundation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (SAT AB)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	116	EPD-09708	94	Barrier/ Acoustic Mat	-10	105	105
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105				Barrier/ Acoustic Mat	-10	85	
	Grout mixer	60	-2	1	OCNP 021	90	88						88	
	Grout pump	60	-2	1	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Generator, portable	100	0	1	OCNP 023	100	100				Barrier/ Acoustic Mat	-10	90	

Notes:

[1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Excavation Works (SAT AB)	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	88	99	
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98		EPD-00592R	90					88
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95		95
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96		96

Notes:

[1] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (SAT AB)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117	Other 007	102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer	-5 -10 -15 -15	91	106
	Concrete lorry mixer	60	-2	2	CNP 044	109	110						105	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113	92						
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108	93						
	Ventilation fan	100	0	2	CNP 241	108	111	96						
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100	90						

Notes:

[1] Percentage on time within 30 minutes.

Construction Works for Concrete Batching Plant					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Construction Works for Concrete Batching Plant (CBP)	Generator, silenced, 75 dB(A) at 7 m	60	-2	2	CNP 102	100	101	122	EPD-00592R	90			91	111
	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110		EPD-07577	92	Barrier/ Acoustic Mat	-5	85	
	Crane, mobile/ barge mounted (diesel)	60	-2	2	CNP 048	112	113		EPD-12240	101	Barrier/ Acoustic Mat	-5	97	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	2	OCNP 046	105	103				Barrier/ Acoustic Mat	-5	98	
	Poker, vibratory, hand-held	60	-2	2	CNP 170	113	114		Other 007	102	Barrier/ Acoustic Mat	-10	93	
	Breaker, excavated mounted (hydraulic)	60	-2	1	CNP 028	122	120				Soundproof Hammer Bracket	-10	110	
	Air compressor, air flow > 30 m3/min	60	-2	1	CNP 003	104	102		EPD-09708	94	Barrier/ Acoustic Mat	-10	82	
	Concrete lorry mixer	60	-2	2	CNP 044	109	110				Barrier/ Acoustic Mat	-5	105	

Notes:

[1] Percentage on time within 30 minutes.

Operational Works for Concrete Batching Plant					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Operational Works for Concrete Batching Plant (CBP)	Excavator/loader, wheeled/tracked (loader)	60	-2	1	CNP 081	112	110	115	EPD-12048	101	Barrier/ Acoustic Mat	-5	94	108
	Concrete mixer (electric)	60	-2	1	CNP 045	96	94				Barrier/ Acoustic Mat	-10	84	
	Generator, silenced, 75 dB(A) at 7 m	60	-2	2	CNP 102	100	101		EPD-00592R	90	Barrier/ Acoustic Mat	-10	91	
	Concrete mixer (petrol)	60	-2	3	CNP 046	96	99				Barrier/ Acoustic Mat	-10	89	
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 046	105	100				Barrier/ Acoustic Mat	-5	95	
	Concrete lorry mixer	60	-2	3	CNP 044	109	112				Barrier/ Acoustic Mat	-5	107	
	Batching plant	60	-2	1	CNP 022	108	106				Barrier/ Acoustic Mat	-10	96	
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105				Barrier/ Acoustic Mat	-10	85	
											EPD-09708	94		

Notes:

[1] Percentage on time within 30 minutes.

Demolition Works for Concrete Batching Plant					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Demolition Works for Concrete Batching Plant (CBP)	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	94	95
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98		EPD-00592R	90			88	
	Welding Set	60	-2	1	Other 006	78	76						76	

Notes:

[1] Percentage on time within 30 minutes.

**Ka Lung Road Ancillary Building
(EAP/EEP)**

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (Whole Area)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117						
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112							
	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110							
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110							
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100							
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106							

Notes:

[1] Percentage on time within 30 minutes.

UU, Road Works & Site Formation					Unmitigated				Mitigated						
Activity (Works Area)	Group (1)	PME	% Operating Time (2)	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU, Road Works & Site Formation (AB11-b)	A	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116						
		Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
		Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							
UU, Road Works & Site Formation (AB11-b)	B	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	111						
		Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
		Concrete lorry mixer	30	-5	1	CNP 044	109	104							
		Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
		Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

Site Formation (Bored Pile)					Unmitigated				Mitigated						
Activity (Works Area)	Group (1)	PME	% Operating Time (2)	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Formation (Bored Pile) (AB11-BPW)	A	Piling, larger diameter bored, grab and chisel	60	-2	2	CNP 164	115	116	117						
		Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
		Concrete lorry mixer	60	-2	1	CNP 044	109	107							
	B	Piling, larger diameter bored, reverse circulation drill	60	-2	2	CNP 166	100	101	112						
		Air compressor, air flow > 30 m3/min	40	-4	2	CNP 003	104	103							
		Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
	C	Concrete lorry mixer	60	-2	1	CNP 044	109	107	116						
		Piling, larger diameter bored, oscillator	40	-4	2	CNP 165	115	114							
		Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110							
		Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
Concrete lorry mixer	60	-2	1	CNP 044	109	107									

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB11-a)	Piling, earth auger, auger	60	-2	4	CNP 167	114	118	119						
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105							
	Grout mixer	60	-2	2	OCNP 021	90	91							
	Grout pump	60	-2	2	OCNP 022	105	106							
	Generator, silenced, 75 dB(A) at 7 m	100	0	2	CNP 102	100	103							

Notes:
 [1] Percentage on time within 30 minutes.

Foundation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (AB11-a)	Piling, larger diameter bored, grab and chisel	60	-2	2	CNP 164	115	116	118						
	Piling, larger diameter bored, reverse circulation drill	60	-2	2	CNP 166	100	101							
	Piling, larger diameter bored, oscillator	40	-4	2	CNP 165	115	114							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
	Concrete lorry mixer	60	-2	1	CNP 044	109	107							

Note:

[1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB11-a)	Excavator/loader, wheeled/tracked (excavator)	60	-2	2	CNP 081	112	113	116						
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98							
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111							
	Ventilation fan	100	0	2	CNP 241	108	111							

Notes:

[1] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB11-a)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117						
	Concrete lorry mixer	60	-2	2	CNP 044	109	110							
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113							
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108							
	Ventilation fan	100	0	2	CNP 241	108	111							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							

Notes:
 [1] Percentage on time within 30 minutes.

Retaining Wall					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Retaining Wall (AB11-a)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116						
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113							
	Concrete lorry mixer	30	-5	1	CNP 044	109	104							
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100							
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88							
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108							

Note:
 [1] Percentage on time within 30 minutes.

**Kwu Tung Road Ancillary Building
(EAP/EEP/VB)**

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (AB13)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	104
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/barge mounted (diesel)	60	-2	1	CNP 048	112	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	94		
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110	EPD-12048	101	Barrier/ Acoustic Mat	-5	94		
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100			Barrier/ Acoustic Mat	-5	95		
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106	EPD-12553	99	Barrier/ Acoustic Mat	-10	87		

Notes:
 [1] Percentage on time within 30 minutes.

UU, Road Works and Site Formation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU, Road Works and Site Formation (AB13)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	103
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113		Other 001	94			92	
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104	EPD-00592R	90	Barrier/ Acoustic Mat	-5	99		
	Concrete lorry mixer	30	-5	1	CNP 044	109	104					99		
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100					90		
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88	Other 007	102	Barrier/ Acoustic Mat	-10	88		
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108					87		

Notes:

[1] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB13)	Piling, larger diameter bored, grab and chisel	60	-2	3	CNP 164	115	118	122	EPD-09708	94	Barrier/ Acoustic Mat	-10	108	113
	Piling, larger diameter bored, reverse circulation drill	60	-2	3	CNP 166	100	103				Barrier/ Acoustic Mat	-10	93	
	Piling, larger diameter bored, oscillator	40	-4	3	CNP 165	115	116				Barrier/ Acoustic Mat	-10	106	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88					88		
	Concrete lorry mixer	60	-2	1	CNP 044	109	107	Barrier/ Acoustic Mat			-5	102		
	Piling, earth auger, auger	60	-2	4	CNP 167	114	118	Barrier/ Acoustic Mat			-10	108		
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105	Barrier/ Acoustic Mat			-10	85		
	Grout mixer	60	-2	2	OCNP 021	90	91					91		
	Grout pump	60	-2	2	OCNP 022	105	106	Barrier/ Acoustic Mat			-10	96		
	Generator, portable	100	0	1	OCNP 023	100	100	Barrier/ Acoustic Mat			-10	90		

Notes:
 [1] Percentage on time within 30 minutes.

Foundation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (AB13)	Piling, earth auger, auger	60	-2	3	CNP 167	114	117	117	EPD-09708	94	Barrier/ Acoustic Mat	-10	107	107
	Air compressor, air flow > 30 m3/min	60	-2	3	CNP 003	104	107				Barrier/ Acoustic Mat	-10	87	
	Grout mixer	60	-2	1	OCNP 021	90	88						88	
	Grout pump	60	-2	1	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Generator, portable	100	0	1	OCNP 023	100	100				Barrier/ Acoustic Mat	-10	90	

Notes:
 [1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB13)	Excavator/loader, wheeled/tracked (excavator)	60	-2	3	CNP 081	112	115	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	99
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98		EPD-00592R	90			88	
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	

Notes:
 [1] Percentage on time within 30 minutes.

Road Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Road Works (AB13)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	113	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	100
	Concrete lorry mixer	30	-5	1	CNP 044	109	104		EPD-00592R	90	Barrier/ Acoustic Mat	-5	99	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100						90	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88						88	
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108		Other 007	102	Barrier/ Acoustic Mat	-10	87	

Notes:
 [1] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB13)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117	Other 007	102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer	-5 -10 -15 -15	91	106
	Concrete lorry mixer	60	-2	2	CNP 044	109	110						105	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113						92	
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108						93	
	Ventilation fan	100	0	2	CNP 241	108	111						96	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100						90	

Notes:
 [1] Percentage on time within 30 minutes.

**Pak Shek Au Ancillary Building
(EAP/EEP)**

Preliminary Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Preliminary Works (AB14)	Excavator/loader, wheeled/tracked (excavator)	70	-2	1	CNP 081	112	110	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	104
	Saw, chain, hand-held	60	-2	1	CNP 202	114	112				Barrier/ Acoustic Mat	-10	102	
	Crane, mobile/berge mounted (diesel)	60	-2	1	CNP 048	112	110		EPD-12240	101	Barrier/ Acoustic Mat	-5	94	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	
	Breaker, hand-held, mass ≤ 10 kg	60	-2	1	CNP 023	108	106		EPD-12553	99	Barrier/ Acoustic Mat	-10	87	

Notes:

[1] Percentage on time within 30 minutes.

UU, Road Works and Site Formation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
UU, Road Works and Site Formation (AB14)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577 Other 001	92	Barrier/ Acoustic Mat	-5	86	103
	Piling, vibrating hammer	60	-2	1	OCNP 026	115	113				Barrier/ Acoustic Mat	-5	92	
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 044	105	104				Barrier/ Acoustic Mat	-5	99	
	Concrete lorry mixer	30	-5	1	CNP 044	109	104				Barrier/ Acoustic Mat	-5	99	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100		EPD-00592R	90	Barrier/ Acoustic Mat	-5	90	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88				Barrier/ Acoustic Mat	-5	88	
	Poker, vibratory, hand-held	30	-5	1	CNP 170	113	108				Barrier/ Acoustic Mat	-10	87	

Notes:

[1] Percentage on time within 30 minutes.

Cofferdam Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Cofferdam Works (AB Area)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	120	EPD-09708	94	Barrier/ Acoustic Mat	-10	105	110
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105				Barrier/ Acoustic Mat	-10	85	
	Grout mixer	60	-2	1	OCNP 021	90	88						88	
	Grout pump	60	-2	1	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Generator, portable	100	0	1	OCNP 023	100	100				Barrier/ Acoustic Mat	-10	90	
	Piling, vibrating hammer	60	-2	3	OCNP 026	115	118				Barrier/ Acoustic Mat	-10	108	

Notes:

[1] Percentage on time within 30 minutes.

Foundation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Foundation Works (AB Area)	Piling, earth auger, auger	60	-2	2	CNP 167	114	115	120	EPD-09708	94	Barrier/ Acoustic Mat	-10	105	111
	Air compressor, air flow > 30 m3/min	60	-2	2	CNP 003	104	105				Barrier/ Acoustic Mat	-10	85	
	Grout mixer	60	-2	1	OCNP 021	90	88						88	
	Grout pump	60	-2	1	OCNP 022	105	103				Barrier/ Acoustic Mat	-10	93	
	Generator, portable	100	0	1	OCNP 023	100	100				Barrier/ Acoustic Mat	-10	90	
	Piling, larger diameter bored, grab and chisel	60	-2	2	CNP 164	115	116				Barrier/ Acoustic Mat	-10	106	
	Piling, larger diameter bored, reverse circulation drill	60	-2	2	CNP 166	100	101				Barrier/ Acoustic Mat	-10	91	
	Piling, larger diameter bored, oscillator	40	-4	2	CNP 165	115	114				Barrier/ Acoustic Mat	-10	104	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88						88	
	Concrete lorry mixer	60	-2	1	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	

Notes:

[1] Percentage on time within 30 minutes.

Excavation Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Excavation Works (AB14)	Excavator/loader, wheeled/tracked (excavator)	60	-2	1	CNP 081	112	110	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	85	99
	Crane, mobile/barge mounted (diesel)	75	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Generator, silenced, 75 dB(A) at 7 m	60	-2	1	CNP 102	100	98	EPD-00592R	90				88	
	Ventilation fan	100	0	2	CNP 241	108	111			Silencer	-15	96		

Notes:

[1] Percentage on time within 30 minutes.

RC Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
RC Works (AB14)	Bar bender and cutter (electric)	60	-2	2	CNP 021	90	91	117	Other 007	102	Barrier/ Acoustic Mat Barrier/ Acoustic Mat Enclosure Silencer	-5 -10 -15 -15	91	106
	Concrete lorry mixer	60	-2	2	CNP 044	109	110						105	
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113	92						
	Concrete pump, stationary/lorry mounted	75	-1	1	CNP 047	109	108	93						
	Ventilation fan	100	0	2	CNP 241	108	111	96						
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100	90						

Notes:

[1] Percentage on time within 30 minutes.

Permanent CLP Substation for NOL Mainline Operation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance and Establishment (CLP Site Clearance)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	100
	Crane, mobile/barge mounted (diesel)	80	-1	1	CNP 048	112	111		EPD-12240	101	Barrier/ Acoustic Mat	-5	95	
	Excavator/loader, wheeled/tracked (loader)	70	-2	1	CNP 081	112	110		EPD-12048	101	Barrier/ Acoustic Mat	-5	94	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100				Barrier/ Acoustic Mat	-5	95	

Notes:

[1] Percentage on time within 30 minutes.

Permanent CLP Substation for NOL Mainline Operation					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Construction of Permanent Substation (CLP Substation Construction)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	86	102
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107		EPD-12240	101	Barrier/ Acoustic Mat	-5	91	
	Concrete lorry mixer	50	-3	1	CNP 044	109	106		Other 007	102	Barrier/ Acoustic Mat	-5	101	
	Poker, vibratory, hand-held	50	-3	1	CNP 170	113	110				Barrier/ Acoustic Mat	-10	89	
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100				EPD-00592R	90	90	
	Bar bender and cutter (electric)	60	-2	1	CNP 021	90	88				90	88		

Notes:

[1] Percentage on time within 30 minutes.

Kwu Tung Station (KTU) (NOL)

Site Mobilisation and Hoarding Installation						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Material Loading (KTU 1a/ KTU 1b/ KTU 1c/ KTU 1d/ KTU 1e)	A	Air compressor, air flow > 30 m3/min	70	-2	1	CNP 003	104	102	118	EPD-09708	94	Barrier/ Acoustic Mat	-10	82	108
		Bar bender and cutter (electric)	30	-5	2	CNP 021	90	88							
		Saw, chain, hand-held	30	-5	2	CNP 202	114	112							
		Saw, circular, wood	30	-5	2	CNP 201	108	106							
		Planer, wood, hand-held (electric)	30	-5	2	CNP 171	117	115							
		Generator, silenced, 75 dB(A) at 7 m	90	0	2	CNP 102	100	103							
		Power pack for hand-held items of PME	100	0	2	CNP 168	100	103							
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109							
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103							
		Loading/ Unloading (KTU 1a/ KTU 1b/ KTU 1c/ KTU 1d/ KTU 1e)	B	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048				112	109	110	
Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70			-2	1	OCNP 042	105	103							
Excavation (for Minor Site Form/ Haul Road) (KTU 1a/ KTU 1b/ KTU 1c/ KTU 1d/ KTU 1e)	C	Excavator/loader, wheeled/tracked (excavator)	90	0	1	CNP 081	112	112	115	EPD-07577	92	Barrier/ Acoustic Mat	-5	87	103
		Excavator/loader, wheeled/tracked (loader)	90	0	1	CNP 081	112	112							
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	2	OCNP 046	105	108							
Concreting (KTU 1a/ KTU 1b/ KTU 1c/ KTU 1d/ KTU 1e)	D	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	116	Other 007	102	Enclosure	-15	91	102
		Concrete lorry mixer	50	-3	1	CNP 044	109	106							
		Poker, vibratory, hand-held	50	-3	3	CNP 170	113	115							

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was adopted for calculation.

[2] Percentage on time within 30 minutes.

Site Clearance (Remove KTU(EAL) Site Office)					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Site Clearance (Remove KTU(EAL) Site Office) (KTU 2a)	Breaker, excavated mounted (hydraulic)	100	0	1	CNP 028	122	122	122	EPD-12553	99	Soundproof Hammer Bracket	-10	112	112
	Breaker, hand-held, mass ≤ 10 kg	100	0	1	CNP 023	108	108				Barrier/ Acoustic Mat	-10	89	89

Notes:

[1] Percentage on time within 30 minutes.

GI and Foundation Works						Unmitigated				Mitigated									
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)				
GI and Foundation Works (KTU 3a)		Piling, diaphragm wall, bentonite filtering plant	90	0	1	CNP 162	105	105	118			Barrier/ Acoustic Mat	-10	95	105				
		Piling, diaphragm wall, hydraulic extractor	90	0	1	CNP 163	90	90											
		Piling, larger diameter bored, grab and chisel	90	0	1	CNP 164	115	115				Other 002	107	Barrier/ Acoustic Mat		-10	97		
		Crane, mobile/barge mounted (diesel)	90	0	1	CNP 048	112	112				EPD-12240	101	Barrier/ Acoustic Mat		-5	96		
		Air compressor, air flow > 30 m3/min	90	0	1	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat		-10	84		
		Generator, silenced, 75 dB(A) at 7 m	50	-3	1	CNP 102	100	97				EPD-00592R	90				Enclosure	-15	91
		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106									Barrier/ Acoustic Mat	-5	101
		Concrete lorry mixer	50	-3	1	CNP 044	109	106											90
		Grout mixer	90	0	1	OCNP 021	90	90											90
		Grout pump	90	0	1	OCNP 022	105	105									Barrier/ Acoustic Mat	-10	95
		GI and Foundation Works (KTU 3b)		Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162				105	108	120				Barrier/ Acoustic Mat	-10
Piling, diaphragm wall, hydraulic extractor	90			0	2	CNP 163	90	93											
Piling, larger diameter bored, grab and chisel	90			0	2	CNP 164	115	118	Other 002	107	Barrier/ Acoustic Mat	-10	100						
Crane, mobile/barge mounted (diesel)	90			0	1	CNP 048	112	112	EPD-12240	101	Barrier/ Acoustic Mat	-5	96						
Air compressor, air flow > 30 m3/min	90			0	1	CNP 003	104	104	EPD-09708	94	Barrier/ Acoustic Mat	-10	84						
Generator, silenced, 75 dB(A) at 7 m	50			-3	1	CNP 102	100	97	EPD-00592R	90			Enclosure		-15			91	
Concrete pump, stationary/lorry mounted	50			-3	1	CNP 047	109	106					Barrier/ Acoustic Mat		-5			101	
Concrete lorry mixer	50			-3	1	CNP 044	109	106										90	
Grout mixer	90			0	1	OCNP 021	90	90										90	
Grout pump	90			0	1	OCNP 022	105	105					Barrier/ Acoustic Mat		-10			95	
GI and Foundation Works (KTU 3c)				Piling, diaphragm wall, bentonite filtering plant	90	0	1	CNP 162	105	105	118				Barrier/ Acoustic Mat			-10	95
		Piling, diaphragm wall, hydraulic extractor	90	0	1	CNP 163	90	90											
		Piling, larger diameter bored, grab and chisel	90	0	1	CNP 164	115	115	Other 002	107				Barrier/ Acoustic Mat	-10	97			
		Crane, mobile/barge mounted (diesel)	90	0	1	CNP 048	112	112	EPD-12240	101				Barrier/ Acoustic Mat	-5	96			
		Air compressor, air flow > 30 m3/min	90	0	1	CNP 003	104	104	EPD-09708	94				Barrier/ Acoustic Mat	-10	84			
		Generator, silenced, 75 dB(A) at 7 m	50	-3	1	CNP 102	100	97	EPD-00592R	90						Enclosure	-15	91	
		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106								Barrier/ Acoustic Mat	-5	101	
		Concrete lorry mixer	50	-3	1	CNP 044	109	106										90	
		Grout mixer	90	0	1	OCNP 021	90	90										90	
		Grout pump	90	0	1	OCNP 022	105	105								Barrier/ Acoustic Mat	-10	95	
		GI and Foundation Works (KTU 3d)	A	Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162	105	108				120			Barrier/ Acoustic Mat	-10	98
Piling, diaphragm wall, hydraulic extractor	90			0	2	CNP 163	90	93											
Piling, larger diameter bored, grab and chisel	90			0	2	CNP 164	115	118	Other 002	107	Barrier/ Acoustic Mat	-10	100						
Crane, mobile/barge mounted (diesel)	90			0	1	CNP 048	112	112	EPD-12240	101	Barrier/ Acoustic Mat	-5	96						
Drill rig, rotary type (diesel)	90			0	2	OCNP 015	110	113					Barrier/ Acoustic Mat				-10	103	
Air compressor, air flow > 30 m3/min	90			0	1	CNP 003	104	104	EPD-09708	94	Barrier/ Acoustic Mat	-10	84						
Generator, silenced, 75 dB(A) at 7 m	50			-3	1	CNP 102	100	97	EPD-00592R	90			Enclosure				-15	91	
Concrete pump, stationary/lorry mounted	50			-3	1	CNP 047	109	106					Barrier/ Acoustic Mat				-5	101	
Concrete lorry mixer	50			-3	1	CNP 044	109	106										90	
Grout mixer	90			0	1	OCNP 021	90	90										90	
Grout pump	90			0	1	OCNP 022	105	105					Barrier/ Acoustic Mat				-10	95	
B	Piling, diaphragm wall, bentonite filtering plant		90	0	2	CNP 162	105	108	118			Barrier/ Acoustic Mat	-10	98	107				
	Crane, mobile/barge mounted (diesel)		90	0	1	CNP 048	112	112				EPD-12240	101	Barrier/ Acoustic Mat		-5	96		
	Drill rig, rotary type (diesel)		90	0	3	OCNP 015	110	114									Barrier/ Acoustic Mat	-10	104
	Air compressor, air flow > 30 m3/min		90	0	1	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat		-10	84		
	Generator, silenced, 75 dB(A) at 7 m		50	-3	1	CNP 102	100	97				EPD-00592R	90				Enclosure	-15	91
	Concrete pump, stationary/lorry mounted		50	-3	1	CNP 047	109	106									Barrier/ Acoustic Mat	-5	101
	Concrete lorry mixer		50	-3	1	CNP 044	109	106											90
	Grout mixer		90	0	1	OCNP 021	90	90											90
	Grout pump		90	0	1	OCNP 022	105	105									Barrier/ Acoustic Mat	-10	95
	GI and Foundation Works (KTU 3f)		A	Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162				105	108	121				Barrier/ Acoustic Mat	-10
Piling, diaphragm wall, hydraulic extractor		90		0	2	CNP 163	90	93											
Piling, larger diameter bored, grab and chisel		90		0	2	CNP 164	115	118	Other 002	107	Barrier/ Acoustic Mat	-10	100						
Crane, mobile/barge mounted (diesel)		90		0	1	CNP 048	112	112	EPD-12240	101	Barrier/ Acoustic Mat	-5	96						
Drill rig, rotary type (diesel)		90		0	4	OCNP 015	110	116					Barrier/ Acoustic Mat		-10			106	
Air compressor, air flow > 30 m3/min		90		0	1	CNP 003	104	104	EPD-09708	94	Barrier/ Acoustic Mat	-10	84						
Generator, silenced, 75 dB(A) at 7 m		50		-3	1	CNP 102	100	97	EPD-00592R	90			Enclosure		-15			91	
Concrete pump, stationary/lorry mounted		50		-3	1	CNP 047	109	106					Barrier/ Acoustic Mat		-5			101	
Concrete lorry mixer		50		-3	1	CNP 044	109	106										90	
Grout mixer		90		0	1	OCNP 021	90	90										90	
Grout pump		90		0	1	OCNP 022	105	105					Barrier/ Acoustic Mat		-10			95	
B		Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162	105	108	119			Barrier/ Acoustic Mat	-10	98	109				
		Crane, mobile/barge mounted (diesel)	90	0	1	CNP 048	112	112				EPD-12240	101	Barrier/ Acoustic Mat		-5	96		
		Drill rig, rotary type (diesel)	90	0	5	OCNP 015	110	117									Barrier/ Acoustic Mat	-10	107
		Air compressor, air flow > 30 m3/min	90	0	1	CNP 003	104	104				EPD-09708	94	Barrier/ Acoustic Mat		-10	84		
		Generator, silenced, 75 dB(A) at 7 m	50	-3	1	CNP 102	100	97				EPD-00592R	90				Enclosure	-15	91
		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106									Barrier/ Acoustic Mat	-5	101
		Concrete lorry mixer	50	-3	1	CNP 044	109	106											90
		Grout mixer	90	0	1	OCNP 021	90	90											90
		Grout pump	90	0	1	OCNP 022	105	105									Barrier/ Acoustic Mat	-10	95

GI and Foundation Works						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
GI and Foundation Works (KTU 3g)	A	Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162	105	108	120			Barrier/ Acoustic Mat	-10	98	107
		Piling, diaphragm wall, hydraulic extractor	90	0	2	CNP 163	90	93				93			
		Piling, larger diameter bored, grab and chisel	90	0	2	CNP 164	115	118				100			
		Crane, mobile/barge mounted (diesel)	90	0	1	CNP 048	112	112				96			
		Drill rig, rotary type (diesel)	90	0	1	OCNP 015	110	110				100			
		Air compressor, air flow > 30 m3/min	90	0	1	CNP 003	104	104				84			
		Generator, silenced, 75 dB(A) at 7 m	50	-3	1	CNP 102	100	97				87			
		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106				91			
		Concrete lorry mixer	50	-3	1	CNP 044	109	106				101			
		Grout mixer	90	0	1	OCNP 021	90	90				90			
	Grout pump	90	0	1	OCNP 022	105	105	95							
	B	Piling, diaphragm wall, bentonite filtering plant	90	0	2	CNP 162	105	108	117			Barrier/ Acoustic Mat	-10	98	107
		Crane, mobile/barge mounted (diesel)	90	0	1	CNP 048	112	112				96			
		Drill rig, rotary type (diesel)	90	0	2	OCNP 015	110	113				103			
		Air compressor, air flow > 30 m3/min	90	0	1	CNP 003	104	104				84			
		Generator, silenced, 75 dB(A) at 7 m	50	-3	1	CNP 102	100	97				87			
		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106				91			
		Concrete lorry mixer	50	-3	1	CNP 044	109	106				101			
		Grout mixer	90	0	1	OCNP 021	90	90				90			
		Grout pump	90	0	1	OCNP 022	105	105				95			

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] Hydraulic extractor and grab and chisel would not be operated at the same time at the same workfront. The larger SWL was selected for calculation.

[3] Percentage on time within 30 minutes.

Excavation and Structural Works					Unmitigated					Mitigated							
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)		
Excavation and Structural Works (Bottom Up Construction) (KTU 5a)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106		
		Excavator/loader, wheeled/tracked (loader)	90	0	1	CNP 081	112	112				EPD-12048	101	Barrier/ Acoustic Mat		-5	96
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111						Barrier/ Acoustic Mat		-5	106
	B	Saw/groover, concrete (petrol)	50	-3	1	CNP 203	115	112	113	EPD-12553	99	Barrier/ Acoustic Mat	-10	102	102		
		Breaker, hand-held, mass ≤ 10 kg	50	-3	1	CNP 023	108	105						Barrier/ Acoustic Mat		-10	86
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97		
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109						Barrier/ Acoustic Mat		-5	93
	D	Air compressor, air flow > 30 m3/min	70	-2	1	CNP 003	104	102	116	EPD-09708	94	Barrier/ Acoustic Mat	-10	82	105		
		Water pump (electric)	100	0	4	CNP 281	88	94									
		Generator, silenced, 75 dB(A) at 7 m	90	0	1	CNP 102	100	100									
		Ventilation fan	90	0	1	CNP 241	108	108									
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109									
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103									
		Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85									
		Compactor, vibratory	30	-5	1	CNP 050	105	100									
Roller, vibratory		30	-5	1	CNP 186	108	103										
Saw, circular, wood		30	-5	1	CNP 201	108	103										
Planer, wood, hand-held (electric)		30	-5	1	CNP 171	117	112										
Drill/grinder, hand-held (electric)		50	-3	1	CNP 065	98	95										
Power pack for hand-held items of PME	100	0	1	CNP 168	100	100											
E	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	116	Other 007	102	Enclosure	-15	91	106			
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113				Barrier/ Acoustic Mat	-10	92				
	Concrete lorry mixer	50	-3	3	CNP 044	109	111				Barrier/ Acoustic Mat	-5	106				
Excavation and Structural Works (Bottom Up Construction) (KTU 5b)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106		
		Excavator/loader, wheeled/tracked (loader)	90	0	1	CNP 081	112	112				EPD-12048	101	Barrier/ Acoustic Mat		-5	96
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111						Barrier/ Acoustic Mat		-5	106
	B	Saw/groover, concrete (petrol)	50	-3	1	CNP 203	115	112	113	EPD-12553	99	Barrier/ Acoustic Mat	-10	102	102		
		Breaker, hand-held, mass ≤ 10 kg	50	-3	1	CNP 023	108	105						Barrier/ Acoustic Mat		-10	86
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97		
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109						Barrier/ Acoustic Mat		-5	93
	D	Air compressor, air flow > 30 m3/min	70	-2	1	CNP 003	104	102	116	EPD-09708	94	Barrier/ Acoustic Mat	-10	82	105		
		Water pump (electric)	100	0	4	CNP 281	88	94									
		Generator, silenced, 75 dB(A) at 7 m	90	0	1	CNP 102	100	100									
		Ventilation fan	90	0	1	CNP 241	108	108									
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109									
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103									
		Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85									
		Compactor, vibratory	30	-5	1	CNP 050	105	100									
Roller, vibratory		30	-5	1	CNP 186	108	103										
Saw, circular, wood		30	-5	1	CNP 201	108	103										
Planer, wood, hand-held (electric)		30	-5	1	CNP 171	117	112										
Drill/grinder, hand-held (electric)		50	-3	1	CNP 065	98	95										
Power pack for hand-held items of PME	100	0	1	CNP 168	100	100											
E	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	116	Other 007	102	Enclosure	-15	91	106			
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113				Barrier/ Acoustic Mat	-10	92				
	Concrete lorry mixer	50	-3	3	CNP 044	109	111				Barrier/ Acoustic Mat	-5	106				
Excavation and Structural Works (Bottom Up Construction) (KTU 5c)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	117	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106		
		Excavator/loader, wheeled/tracked (loader)	90	0	1	CNP 081	112	112				EPD-12048	101	Barrier/ Acoustic Mat		-5	96
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111						Barrier/ Acoustic Mat		-5	106
	B	Saw/groover, concrete (petrol)	50	-3	1	CNP 203	115	112	113	EPD-12553	99	Barrier/ Acoustic Mat	-10	102	102		
		Breaker, hand-held, mass ≤ 10 kg	50	-3	1	CNP 023	108	105						Barrier/ Acoustic Mat		-10	86
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97		
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109						Barrier/ Acoustic Mat		-5	93
	D	Air compressor, air flow > 30 m3/min	70	-2	1	CNP 003	104	102	116	EPD-09708	94	Barrier/ Acoustic Mat	-10	82	105		
		Water pump (electric)	100	0	4	CNP 281	88	94									
		Generator, silenced, 75 dB(A) at 7 m	90	0	1	CNP 102	100	100									
		Ventilation fan	90	0	1	CNP 241	108	108									
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109									
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103									
		Bar bender and cutter (electric)	30	-5	1	CNP 021	90	85									
		Compactor, vibratory	30	-5	1	CNP 050	105	100									
Roller, vibratory		30	-5	1	CNP 186	108	103										
Saw, circular, wood		30	-5	1	CNP 201	108	103										
Planer, wood, hand-held (electric)		30	-5	1	CNP 171	117	112										
Drill/grinder, hand-held (electric)		50	-3	1	CNP 065	98	95										
Power pack for hand-held items of PME	100	0	1	CNP 168	100	100											
E	Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	116	Other 007	102	Enclosure	-15	91	106			
	Poker, vibratory, hand-held	50	-3	2	CNP 170	113	113				Barrier/ Acoustic Mat	-10	92				
	Concrete lorry mixer	50	-3	3	CNP 044	109	111				Barrier/ Acoustic Mat	-5	106				

Excavation and Structural Works					Unmitigated				Mitigated							
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Excavation and Structural Works (Top Down Construction) (KTU 5d)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111	116			Barrier/ Acoustic Mat	-5	106	106	
		Excavator/loader, wheeled/tracked (loader)	90		1											
	B	Saw/groover, concrete (petrol)	50		1											
		Breaker, hand-held, mass ≤ 10 kg	50		1											
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97	
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110			Barrier/ Acoustic Mat	-5	93	100	
	D	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	100	
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103	110							
		Saw, circular, wood	30		1											
		Air compressor, air flow > 30 m3/min	70		1											
		Water pump (electric)	100		4											
		Generator, silenced, 75 dB(A) at 7 m	90		1											
		Ventilation fan	90		1											
		Bar bender and cutter (electric)	30		1											
		Compactor, vibratory	30		1											
		Roller, vibratory	30		1											
		Planer, wood, hand-held (electric)	30		1											
		Drill/grinder, hand-held (electric)	50		1											
		Power pack for hand-held items of PME	100		1											
E		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	112							
	Concrete lorry mixer	50	-3	3	CNP 044	109	111	112	Barrier/ Acoustic Mat	-5	106	106				
	Poker, vibratory, hand-held	50		2												
Excavation and Structural Works (Top Down Construction) (KTU 5f)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111	116			Barrier/ Acoustic Mat	-5	106	106	
		Excavator/loader, wheeled/tracked (loader)	90		1											
	B	Saw/groover, concrete (petrol)	50		1											
		Breaker, hand-held, mass ≤ 10 kg	50		1											
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97	
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110			Barrier/ Acoustic Mat	-5	93	100	
	D	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	100	
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103	110							
		Saw, circular, wood	30		1											
		Air compressor, air flow > 30 m3/min	70		1											
		Water pump (electric)	100		4											
		Generator, silenced, 75 dB(A) at 7 m	90		1											
		Ventilation fan	90		1											
		Bar bender and cutter (electric)	30		1											
		Compactor, vibratory	30		1											
		Roller, vibratory	30		1											
		Planer, wood, hand-held (electric)	30		1											
		Drill/grinder, hand-held (electric)	50		1											
		Power pack for hand-held items of PME	100		1											
E		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	112							
	Concrete lorry mixer	50	-3	3	CNP 044	109	111	112	Barrier/ Acoustic Mat	-5	106	106				
	Poker, vibratory, hand-held	50		2												
Excavation and Structural Works (Top Down Construction) (KTU 5g)	A	Excavator/loader, wheeled/tracked (excavator)	90	0	2	CNP 081	112	115	116	EPD-07577	92	Barrier/ Acoustic Mat	-5	90	106	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	90	0	4	OCNP 046	105	111	116			Barrier/ Acoustic Mat	-5	106	106	
		Excavator/loader, wheeled/tracked (loader)	90		1											
	B	Saw/groover, concrete (petrol)	50		1											
		Breaker, hand-held, mass ≤ 10 kg	50		1											
	C	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100	109	EPD-12240	101	Barrier/ Acoustic Mat	-5	95	97	
		Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110			Barrier/ Acoustic Mat	-5	93	100	
	D	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109	110	EPD-12240	101	Barrier/ Acoustic Mat	-5	93	100	
		Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103	110							
		Saw, circular, wood	30		1											
		Air compressor, air flow > 30 m3/min	70		1											
		Water pump (electric)	100		4											
		Generator, silenced, 75 dB(A) at 7 m	90		1											
		Ventilation fan	90		1											
		Bar bender and cutter (electric)	30		1											
		Compactor, vibratory	30		1											
		Roller, vibratory	30		1											
		Planer, wood, hand-held (electric)	30		1											
		Drill/grinder, hand-held (electric)	50		1											
		Power pack for hand-held items of PME	100		1											
E		Concrete pump, stationary/lorry mounted	50	-3	1	CNP 047	109	106	112							
	Concrete lorry mixer	50	-3	3	CNP 044	109	111	112	Barrier/ Acoustic Mat	-5	106	106				
	Poker, vibratory, hand-held	50		2												

Notes:
 [1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.
 [2] PME in shaded cells will operate underground and are not included in the calculation.
 [3] Percentage on time within 30 minutes.

Breakthrough					Unmitigated				Mitigated					
Activity (Works Area)	PME [1]	% Operating Time [2]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
Breakthrough (at Councourse) (KTU 6a)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										
Breakthrough (at Platform) (KTU 6a)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										
Breakthrough (at Councourse) (KTU 6b)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										
Breakthrough (at Platform) (KTU 6b)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										
Breakthrough (at Councourse) (KTU 6c)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										
Breakthrough (at Platform) (KTU 6c)	Saw/groover, concrete (petrol)	90		1										
	Concrete corer	90		1										

Notes:

[1] PME in shaded cells will operate underground and are not included in the calculation.

[2] Percentage on time within 30 minutes.

ABWF, BS, Systemwide E&M Installations, SATs & SIT					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
ABWF, BS, Systemwide E&M Installations, SATs & SIT (KTU 7a)	Air compressor, air flow > 30 m3/min	70	-2	4	CNP 003	104	108	117	EPD-09708	94	Barrier/ Acoustic Mat	-10	88	103
	Generator, silenced, 75 dB(A) at 7 m	90	0	4	CNP 102	100	106		EPD-00592R	90				
	Ventilation fan	90	0	3	CNP 241	108	112			Silencer	-15	97		
	Crane, mobile/barge mounted (diesel)	50	-3	2	CNP 048	112	112			Barrier/ Acoustic Mat	-5	96		
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103	EPD-12240	101	Barrier/ Acoustic Mat	-5	98		

Notes:

[1] Percentage on time within 30 minutes.

EAP4 Above-ground Structure Demolition Works					Unmitigated				Mitigated					
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
EAP4 Above-ground Structure Demolition Works (KTU 8a)	Breaker, excavated mounted (hydraulic)	90	0	2	CNP 028	122	125	126	EPD-00592R EPD-12240	90 101	Soundproof Hammer Bracket	-10	115	115
	Saw/groover, concrete (petrol)	90	0	1	CNP 203	115	115				Barrier/ Acoustic Mat	-10	105	
	Concrete corer	90	0	1	CNP 042	117	117				Enclosure	-15	102	
	Generator, silenced, 75 dB(A) at 7 m	90	0	1	CNP 102	100	100						90	
	Crane, mobile/barge mounted (diesel)	50	-3	1	CNP 048	112	109				Barrier/ Acoustic Mat	-5	93	
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	70	-2	1	OCNP 042	105	103				Barrier/ Acoustic Mat	-5	98	

Notes:

[1] Percentage on time within 30 minutes.

TBM Tunnel						Unmitigated				Mitigated					
Activity (Works Area)	Group [1]	PME [2]	% Operating Time [3]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)
TBM Tunnel (KTU-TBM)	A	Crane, tower (electric)	30	-5	1	CNP 049	95	90	116	EPD-12240 EPD-09708	101 94	Barrier/ Acoustic Mat	-5	85	105
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107				Barrier/ Acoustic Mat	-5	91	
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104				Barrier/ Acoustic Mat	-10	84	
		Slurry treatment plant (for slurry-TBM only)	80	-1	2	CNP 162	105	107				Barrier/ Acoustic Mat	-10	97	
		Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	
		Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107				Enclosure	-15	92	
		Concrete lorry mixer	30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 046	105	104				Barrier/ Acoustic Mat	-5	99	
		TBM (Slurry or EPB type) + back up	100		2										
		Locomotive	60		2										
	B	Crane, tower (electric)	30	-5	1	CNP 049	95	90	115	EPD-12240 EPD-09708	101 94	Barrier/ Acoustic Mat	-5	85	105
		Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107				Barrier/ Acoustic Mat	-5	91	
		Air compressor, air flow > 30 m3/min	50	-3	2	CNP 003	104	104				Barrier/ Acoustic Mat	-10	84	
		Conveyor belt	100	0	2	CNP 041	90	93						93	
		Ventilation fan	100	0	2	CNP 241	108	111				Silencer	-15	96	
		Concrete pump, stationary/lorry mounted	30	-5	2	CNP 047	109	107				Enclosure	-15	92	
		Concrete lorry mixer	30	-5	2	CNP 044	109	107				Barrier/ Acoustic Mat	-5	102	
		Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	80	-1	1	OCNP 046	105	104				Barrier/ Acoustic Mat	-5	99	
		TBM (Slurry or EPB type) + back up	100		2										
		Locomotive	60		2										

Notes:

[1] Different groups of activities will be carried out in difference phases. i.e. will not happen at the same time at the same workfront. The largest SWL was selected for calculation.

[2] PME in shaded cells will operate underground and are not included in the calculation.

[3] Percentage on time within 30 minutes.

Extract from Appendix 4.9a of the approved EIA report for North East New Territories New Development Areas (AEIAR-175/2013) for assessing the cumulative noise impact at Kwu Tung Station (KTU) (NOL)

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation / GIC (per about 2 ha) - S1022 - WC12				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
GIC Sub-Structure (per site)	Apr 2026 - Sep 2026	Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Air compressor (CNP002) (100%)	2	102	102	87	105	105	90
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Excavator (CNP081) (100%)	2	112	95	90	115	98	93
		Bar Bender, Cutter (CNP021) (100%)	2	90	90	90	93	93	93
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Lorry (CNP141) (100%)	2	112	105	100	115	108	103
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
		Water pump (CNP281) (Electric) (100%)	2	88	88	88	91	91	91
				121	114	108	124	118	111
GIC Superstructure (per site)		Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
				118	113	106	122	116	109
Maximum SWL				121	114	108	124	118	111

Note: Only maximum SWL is applied as the worst case scenario.

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation / GIC (per about 2 ha) - S1023 - WC12				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
GIC Sub-Structure (per site)	Apr 2026 - Sep 2026	Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Air compressor (CNP002) (100%)	2	102	102	87	105	105	90
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Excavator (CNP081) (100%)	2	112	95	90	115	98	93
		Bar Bender, Cutter (CNP021) (100%)	2	90	90	90	93	93	93
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Lorry (CNP141) (100%)	2	112	105	100	115	108	103
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
		Water pump (CNP281) (Electric) (100%)	2	88	88	88	91	91	91
				121	114	108	124	118	111
GIC Superstructure (per site)		Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
				118	113	106	122	116	109
Maximum SWL				121	114	108	124	118	111

Note: Only maximum SWL is applied as the worst case scenario.

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation / GIC (per about 2 ha) - S1024 - WC04				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
GIC Sub-Structure (per site)	Apr 2026 - Sep 2026	Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Air compressor (CNP002) (100%)	2	102	102	87	105	105	90
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Excavator (CNP081) (100%)	2	112	95	90	115	98	93
		Bar Bender, Cutter (CNP021) (100%)	2	90	90	90	93	93	93
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Lorry (CNP141) (100%)	2	112	105	100	115	108	103
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
		Water pump (CNP281) (Electric) (100%)	2	88	88	88	91	91	91
				121	114	108	124	118	111
GIC Superstructure (per site)		Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
				118	113	106	122	116	109
Maximum SWL				121	114	108	124	118	111

Note: Only maximum SWL is applied as the worst case scenario.

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation / GIC (per about 2 ha) - S1040 - WC11				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
Site Clearance		Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Breaker, handheld (CNP024) (100%)	1	108	108	98	108	108	98
		Saw, circular, wood (CNP201) (100%)	1	108	106	101	108	106	101
		Bulldozer (CNP030) (100%)	1	115	106	101	115	106	101
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
						120	112	106	121
Earthwork (Cut)		Excavator (CNP081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Breaker, handheld (CNP024) (100%)	1	108	108	98	108	108	98
		Dump Truck (CNP067) (70%)	1	115	103	98	115	103	98
		Water pump (CNP281) (Electric) (100%)	1	88	88	88	88	88	88
						118	110	102	118
Earthwork (Fill)		Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Roller (CNP185) (100%)	1	108	104	99	108	104	99
		Dump Truck (CNP067) (70%)	1	115	103	98	115	103	98
						118	107	102	118
Vertical drains	Aug 2025 - Jul 2026	Vertical band drain installation rig (100%)	1	112	112	107	112	112	107
		Generator (CNP103) (100%)	3	95	90	75	100	95	80
				112	112	107	112	112	107
Slopework (Soil Nail)		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Air compressor (CNP002) (100%)	1	102	102	87	102	102	87
		Grout Pump (100%)	1	105	105	100	105	105	100
		Grout Mixer (100%)	1	90	90	75	90	90	75
		Drill Rig, Rotary Type (Diesel) (100%)	1	110	110	100	110	110	100
		Hoist, Petrol (CNP123) (100%)	1	104	104	99	104	104	99
						112	112	105	112
Slopework (Retaining Wall)		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Bar Bender, Cutter (CNP021) (100%)	1	90	90	90	90	90	90
		Concrete pump (CNP047) (100%)	1	109	109	94	109	109	94
		Compactor, Vibratory (CNP050) (100%)	1	105	105	100	105	105	100
		Vibratory Poker (CNP170) (100%)	1	113	102	92	113	102	92
		Concrete Lorry Mixer (CNP044) (70%)	1	107	107	102	107	107	102
						118	113	106	118
Maximum SWL				120	113	107	121	113	107

Note: Only maximum SWL is applied as the worst case scenario.

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation / GIC (per about 2 ha) - S1040 - WC11				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
GIC Sub-Structure (per site)	Aug 2026 - Jan 2027	Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Air compressor (CNP002) (100%)	2	102	102	87	105	105	90
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Excavator (CNP081) (100%)	2	112	95	90	115	98	93
		Bar Bender, Cutter (CNP021) (100%)	2	90	90	90	93	93	93
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Lorry (CNP141) (100%)	2	112	105	100	115	108	103
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
		Water pump (CNP281) (Electric) (100%)	2	88	88	88	91	91	91
				121	114	108	124	118	111
GIC Superstructure (per site)		Generator (CNP101) (100%)	2	108	90	75	111	93	78
		Piling, Large Bored Pile (CNP166) (100%)	2	100	100	95	103	103	98
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Concrete Lorry Mixer (CNP044) (100%)	2	109	109	104	112	112	107
		Vibratory Poker (CNP170) (100%)	4	113	102	92	119	108	98
		Concrete pump (CNP047) (100%)	2	109	109	94	112	112	97
				118	113	106	122	116	109
Maximum SWL				121	114	108	124	118	111

Note: Only maximum SWL is applied as the worst case scenario.

Project : Agreement No. CE61/2007(CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation
Title : Plant Inventory

Site Formation (per about 2 ha) - S1054 - WC12				SWL of Single PME					
Activity	Months	PME	Units	SWL of Single PME			Total SWL		
				Unmitigated	Quiet Plant	Mitigated	Unmitigated	Quiet Plant	Mitigated
Site Clearance	Apr 2025 - Nov 2025	Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Breaker, handheld (CNP024) (100%)	1	108	108	98	108	108	98
		Saw, circular, wood (CNP201) (100%)	1	108	106	101	108	106	101
		Bulldozer (CNP030) (100%)	1	115	106	101	115	106	101
		Dump Truck (CNP067) (70%)	2	115	103	98	118	106	101
						120	112	106	121
Earthwork (Cut)	Apr 2025 - Nov 2025	Excavator (CNP081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Breaker, handheld (CNP024) (100%)	1	108	108	98	108	108	98
		Dump Truck (CNP067) (70%)	1	115	103	98	115	103	98
		Water pump (CNP281) (Electric) (100%)	1	88	88	88	88	88	88
						118	110	102	118
Earthwork (Fill)	Apr 2025 - Nov 2025	Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Roller (CNP185) (100%)	1	108	104	99	108	104	99
		Dump Truck (CNP067) (70%)	1	115	103	98	115	103	98
						118	107	102	118
Vertical drains	Apr 2025 - Nov 2025	Vertical band drain installation rig (100%)	3	112	112	107	117	117	112
		Generator (CNP103) (100%)	3	95	90	75	100	95	80
				112	112	107	117	117	112
Slopework (Soil Nail)	Apr 2025 - Nov 2025	Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Air compressor (CNP002) (100%)	1	102	102	87	102	102	87
		Grout Pump (100%)	1	105	105	100	105	105	100
		Grout Mixer (100%)	1	90	90	75	90	90	75
		Drill Rig, Rotary Type (Diesel) (100%)	1	110	110	100	110	110	100
		Hoist, Petrol (CNP123) (100%)	1	104	104	99	104	104	99
						112	112	105	112
Slopework (Retaining Wall)	Apr 2025 - Nov 2025	Generator (CNP103) (100%)	1	95	90	75	95	90	75
		Mobile Crane (CNP048) (100%)	1	112	103	98	112	103	98
		Backhoe (CNP 081) (100%)	1	112	95	90	112	95	90
		Bar Bender, Cutter (CNP021) (100%)	1	90	90	90	90	90	90
		Concrete pump (CNP047) (100%)	1	109	109	94	109	109	94
		Compactor, Vibratory (CNP050) (100%)	1	105	105	100	105	105	100
		Vibratory Poker (CNP170) (100%)	1	113	102	92	113	102	92
		Concrete Lorry Mixer (CNP044) (70%)	1	107	107	102	107	107	102
						118	113	106	118
Maximum SWL				120	113	107	121	117	112

Note: Only maximum SWL is applied as the worst case scenario.

Magazine Site

Tree Cutting, Site Preparation, Internal Road and Paving & Magazine Store					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Tree Cutting, Site Preparation, Internal Road and Paving & Magazine Store (MAG)	Excavator/loader, wheeled/tracked (excavator)	100	0	1	CNP 081	112	112	115							
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	100	0	1	OCNP 046	105	105								
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	100	0	1	OCNP 044	105	105								
	Concrete lorry mixer	100	0	1	CNP 044	109	109								
	Bar bender and cutter (electric)	100	0	1	CNP 021	90	90								
	Generator, silenced, 75 dB(A) at 7 m	100	0	1	CNP 102	100	100								

Notes:

[1] Percentage on time within 30 minutes.

Reinstatement Works					Unmitigated				Mitigated						
Activity (Works Area)	PME	% Operating Time [1]	Time Correction dB(A)	Units	PME Reference	Single Unit PME dB(A)	Total SWL (PME) dB(A)	Total SWL (Activity) dB(A)	QPME Reference	Single Unit QPME dB(A)	Mitigation Measures	Correction dB(A)	Total SWL dB(A)	Total SWL (Activity) dB(A)	
Reinstatement Works (MAG)	Excavator/loader, wheeled/tracked (excavator)	80	-1	1	CNP 081	112	111	113							
	Dump truck, with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 047	105	100								
	Crane, mobile/barge mounted (diesel)	30	-5	1	CNP 048	112	107								
	Lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	30	-5	1	OCNP 042	105	100								

Note:
 [1] Percentage on time within 30 minutes.