

Appendix 4.8 Plant Inventory (Mitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)		
1	1.1	EPO-07836 EPO-10780 OCUPME-038 OCUPME-036	Site Clearance	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98	106		
			Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93				
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101				
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101				
	1.2	EPO-07836 EPO-10780 OCUPME-038 OCUPME-036 EPO-09366 EPO-09366 OCUPME-003 EPO-09826 EPO-09710 OCUPME-012 OCUPME-014 OCUPME-015 EPO-03347 CNP 044 OCUPME-019 CNP 050 OCUPME-014 OCUPME-015 EPO-03347	Shape Retention / Upgrading Works [1]	Group A	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98	108	
				Excavator, wheeled/tracked	3	70%	Movable Noise Barrier	-5	97	95			
				Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	103			
				Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			
				Loader, wheeled	2	70%	Movable Noise Barrier	-5	100	96			
				Group B	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Movable Noise Barrier	-5	115	108		
Hand-held Percussive Breaker				1	50%	Movable Noise Barrier	-5	100	92				
Group C				Air Compressor	3	100%	Movable Noise Barrier	-10	94	89			
Drilling rig, rotary type (diesel)				3	100%	Noise Insulating Fabric	-10	110	105				
Grout Mixer				2	70%	Movable Noise Barrier	-10	90	83				
Grout Pump				2	70%	Movable Noise Barrier	-10	105	96				
Generator				3	100%	Movable Noise Barrier	-10	93	88				
Group D				Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105			
Poker, vibratory, hand-held (electric)				2	70%	Movable Noise Barrier	-10	102	93				
Compactor, vibratory				2	70%	Movable Noise Barrier	-5	105	101				
Grout Mixer				2	70%	Movable Noise Barrier	-10	90	81				
Grout Pump	2	70%	Movable Noise Barrier	-10	105	96							
Generator	3	100%	Movable Noise Barrier	-10	93	88							
1	1.3a	EPO-07836 EPO-09366 EPO-10780 OCUPME-038 OCUPME-036 OCUPME-012 EPO-07836 EPO-10780 OCUPME-038 OCUPME-003 EPO-09826 OCUPME-018 EIA Ref 1	Road Widening Works, Noise Barriers & Pipe Pile Wall / L-Shape Retaining Wall Installation	Foundation of Noise Barrier [1]							107		
			Group A	Bulldozer, tracked	2	100%	Movable Noise Barrier	-5	105	103			
			Loader, wheeled	2	100%	Movable Noise Barrier	-5	100	98				
			Excavator, wheeled/tracked	2	100%	Movable Noise Barrier	-5	97	95				
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103				
			Group B	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103			
			Group C	Drilling rig, rotary type (diesel)	3	90%	Noise Insulating Fabric	-10	110	104			
			Group D	Bulldozer, tracked	1	100%	Movable Noise Barrier	-5	105	100			
			Excavator, wheeled/tracked	1	100%	Movable Noise Barrier	-5	97	92				
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%	Movable Noise Barrier	-5	105	101				
			Group E	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	2	50%	Movable Noise Barrier	-10	115	105			
			Hand-held Percussive Breaker	2	50%	Movable Noise Barrier	-5	100	95				
			Group F	Vibratory hammer for sheet piling installation	1	100%	Noise Insulating Fabric	-10	115	105			
			Giken Piler and Power-pack (Silent piling by method for sheet piling installation)	1	100%	Noise Insulating Fabric	-10	94	94				
			Group G	Pile Cap, L-retaining Wall and Formation of new road [1]									
			Group H	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105			
			Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100				
			Poker, vibratory, hand-held (electric)	3	80%	Movable Noise Barrier	-10	102	96				
			Group I	Compactor, vibratory	6	80%	Movable Noise Barrier	-5	105	107			
			Roller, vibratory	2	80%	Movable Noise Barrier	-5	94	91				
			Generator	2	100%	Movable Noise Barrier	-10	93	86				
			Group J	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91			
			Group K	Piling, large diameter bored, oscillator	2	70%	Noise Insulating Fabric	-10	115	106			
			Group L	Piling, large diameter bored, grab and chisel	2	70%	Noise Insulating Fabric	-10	115	106			
Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97							
Group M	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98						
Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	93							
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98							
Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Purpose-built Noise Barrier	-10	115	103							
Hand-held Percussive Breaker	1	50%	Movable Noise Barrier	-5	100	92							
Group N	Vibratory hammer for sheet piling installation	1	70%	Noise Insulating Fabric	-10	115	103						
Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1	70%	Noise Insulating Fabric	-10	94	92							
Group O	Drilling rig for pipe pile wall (retaining wall)	1	70%	Noise Insulating Fabric	-10	110	98						
Crane, mobile	1	70%	Movable Noise Barrier	-5	101	94							
1	1.3c	EPO-10792	Erection of structural steel post for noise barrier								100		
			Crane, mobile	3	90%	Movable Noise Barrier	-5	101	100				
1	1.3d	EPO-10792 OCUPME-040	Installation of steel member and noise barrier panel								100		
			Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100				
1	1.4a	EPO-07836 EPO-10780 EPO-09826 OCUPME-038 OCUPME-036	Roadworks (Flexible Pavement), Signage, Drainage	Utilities Diversion							104		
			Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99				
1	1.4b	EPO-07836 EPO-10780 EPO-09826 OCUPME-038 OCUPME-036	Road Drainage [1]	Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99	103		
			Excavator, wheeled/tracked	1	80%	Movable Noise Barrier	-5	97	91				
			Hand-held Percussive Breaker	1	80%	Movable Noise Barrier	-5	100	94				
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99				
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99				
			Group A	Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99			
			Excavator, wheeled/tracked	1	80%	Movable Noise Barrier	-5	97	91				
			Hand-held Percussive Breaker	1	80%	Movable Noise Barrier	-5	100	94				
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99				
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99				
1	1.4c	EPO-09366 CNP 050 EPO-01268 CNP 161 CNP 044 OCUPME-019 EPO-03347	Road Surfacing [1]	Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103	109		
			Group B	Compactor, vibratory	6	100%	Movable Noise Barrier	-5	105	108			
			Asphalt Paver	2	100%	Movable Noise Barrier	-5	104	103				
			Paint line marker	2	50%	Movable Noise Barrier	-5	90	85				
			Group C	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105			
			Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	92				
			Generator	2	100%	Movable Noise Barrier	-10	93	86				
			Group D	Roadlighting and E&M works									
			Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96				
			Group E	Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90			
Loader, wheeled	1	70%	Movable Noise Barrier	-5	100	93							
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98							
1	1.6	EPO-07836 OCUPME-008 EPO-10780 EPO-10792 OCUPME-038 OCUPME-036	Demolition of Footbridge [1]	Group A	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102	102	
			Group B	Concrete crusher, excavator mounted	2	80%	Movable Noise Barrier	-5	103	100			
			Group C	Excavator, wheeled/tracked	2	60%	Movable Noise Barrier	-5	97	93			
			Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97				
			Group D	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%	Movable Noise Barrier	-5	105	101			
			Group E	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%	Movable Noise Barrier	-5	105	101			

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Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)			
1.7		Construction of Temporary Footbridge / Construction of New Footbridge (Including Demolition of Temporary Footbridge)[1]										107		
		Group A												
		EPO-09366	Loader, wheeled	2	70%	Movable Noise Barrier	-5	100	96	99				
		EPO-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86					
		Group B												
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%	Movable Noise Barrier	-5	105	101	101				
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86					
		Group C												
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%	Movable Noise Barrier	-5	105	101	101				
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86					
		Group D												
		OCUPME-012	Drill rig, rotary type (diesel)	2	80%	Noise Insulating Fabric	-10	110	102	102				
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86					
		Group E												
		EPO-10792	Crane, mobile	2	80%	Movable Noise Barrier	-5	101	98	98				
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86					
		Group F												
		CNP 044	Concrete lorry mixer	2	60%	Movable Noise Barrier	-5	109	105	107				
		CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100					
OCUPME-019	Poker, vibratory, hand-held (electric)	4	80%	Movable Noise Barrier	-10	102	97							
EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86							
Group G														
CNP 050	Compactor, vibratory	2	70%	Movable Noise Barrier	-5	105	101	102						
EPO-09720	Roller, vibratory	1	80%	Movable Noise Barrier	-5	94	88							
EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86							
2.1		Site Clearance										106		
		EPO-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
		EPO-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101	106				
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		Group A												
		EPO-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
		EPO-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
EPO-09366	Loader, wheeled	2	70%	Movable Noise Barrier	-5	100	96	107						
Group B														
OCUPME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Movable Noise Barrier	-5	115	108							
EPO-0826	Hand-held Percussive Breaker	1	50%	Movable Noise Barrier	-5	100	92	108						
Group C														
EPO-09710	Air Compressor	3	100%	Movable Noise Barrier	-10	94	89							
OCUPME-012	Drill rig, rotary type (diesel)	3	100%	Noise Insulating Fabric	-10	110	105							
OCUPME-014	Grout Mixer	2	70%	Movable Noise Barrier	-10	90	81							
OCUPME-015	Grout Pump	2	70%	Movable Noise Barrier	-10	105	97							
EPO-03347	Generator	3	100%	Movable Noise Barrier	-10	93	88	106						
Group D														
CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105							
OCUPME-019	Poker, vibratory, hand-held (electric)	2	70%	Movable Noise Barrier	-10	102	93							
CNP 050	Compactor, vibratory	2	70%	Movable Noise Barrier	-5	105	101							
OCUPME-014	Grout Mixer	2	70%	Movable Noise Barrier	-10	90	81							
OCUPME-015	Grout Pump	2	70%	Movable Noise Barrier	-10	105	96							
EPO-03347	Generator	3	100%	Movable Noise Barrier	-10	93	88	108						
2.3a		Road Widening Works, Noise Barriers & Pipe/Pile Wall / L-Shape Retaining Wall Installation										106		
		Foundation of Noise Barrier [1]												
		EPO-07836	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102					
		EPO-09366	Loader, wheeled	2	80%	Movable Noise Barrier	-5	100	97					
		EPO-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102	106				
		Group B												
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102	102				
		Group C												
		OCUPME-012	Drill rig, rotary type (diesel)	3	80%	Noise Insulating Fabric	-10	110	104	104				
Group D														
EPO-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98							
EPO-10780	Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90							
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98	102						
Group E														
OCUPME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Purpose-built Noise Barrier	-10	115	103							
EPO-0826	Hand-held Percussive Breaker	1	50%	Movable Noise Barrier	-5	100	92	103						
Group F														
OCUPME-018	Vibratory hammer for sheet piling installation	1	70%	Noise Insulating Fabric	-10	115	103							
EIA Ref 1	Given Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1	70%	Noise Insulating Fabric	-10	94	92	104						
2.3b		Pile Cap, L-retaining Wall and Formation of new road [1]										107		
		Group A												
		CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105					
		CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100					
		OCUPME-019	Poker, vibratory, hand-held (electric)	3	80%	Movable Noise Barrier	-10	102	96	107				
		Group B												
		CNP 050	Compactor, vibratory	6	80%	Movable Noise Barrier	-5	105	107					
		EPO-09720	Roller, vibratory	2	80%	Movable Noise Barrier	-5	94	91					
		EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86	107				
		Group C												
CNP 166	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91	91						
Group D														
CNP 165	Piling, large diameter bored, oscillator	2	70%	Noise Insulating Fabric	-10	115	106	106						
Group E														
CNP 164	Piling, large diameter bored, grab and chisel	2	70%	Noise Insulating Fabric	-10	115	106							
EPO-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97	107						
Group F														
EPO-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98							
EPO-10780	Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90							
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98							
OCUPME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Purpose-built Noise Barrier	-10	115	103							
EPO-0826	Hand-held Percussive Breaker	1	50%	Movable Noise Barrier	-5	100	92	106						
Group G														
OCUPME-018	Vibratory hammer for sheet piling installation	1	70%	Noise Insulating Fabric	-10	115	103							
EIA Ref 1	Given Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1	70%	Noise Insulating Fabric	-10	94	92	104						
Group H														
OCUPME-012	Drilling rig for pipe pile wall (retaining wall)	1	70%	Noise Insulating Fabric	-10	110	98							
EPO-10792	Crane, mobile	1	70%	Movable Noise Barrier	-5	101	94	100						
2.3c		Erection of structural steel post for noise barrier										100		
		EPO-10792	Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100	100				
		2.4a		Roadworks (Flexible Pavement), Signage, Drainage										104
				Utilities Diversion										
				EPO-07836	Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99			
				EPO-10780	Excavator, wheeled/tracked	1	80%	Movable Noise Barrier	-5	97	91			
				EPO-0826	Hand-held Percussive Breaker	1	80%	Movable Noise Barrier	-5	100	94			
				OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99			
				OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99	104		
				Road Drainage										
EPO-07836	Bulldozer, tracked			1	80%	Movable Noise Barrier	-5	105	99					
EPO-10780	Excavator, wheeled/tracked			1	80%	Movable Noise Barrier	-5	97	91					
CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	1	80%	Movable Noise Barrier	-5	108	102							
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99							
OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99	106						
2.4c		Road Surfacing [1]										109		
		Group A												
		EPO-09366	Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103	103				
		Group B												
		CNP 050	Compactor, vibratory	6	100%	Movable Noise Barrier	-5	105	108					
		EPO-01226R	Asphalt Paver	2	100%	Movable Noise Barrier	-5	104	102					
		CNP 161	Paint line marker	2	50%	Movable Noise Barrier	-5	90	85	109				
		Group C												
		CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105					
		OCUPME-019	Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	92					
EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86	106						

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Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)
2.4d	2.5	EPD-10792	Roadlighting and E&M works Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96	96	96
		EPD-10780 EPD-09366 OCUPME-036	Landscape Works for Slope Excavator, wheeled/tracked Loader, wheeled Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 1 1	70% 70% 70%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5	97 100 98	90 93 100	100	
3.1	3.2	EPD-07836 EPD-10780 OCUPME-038 OCUPME-036	Site Clearance Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 2 2 2	70% 70% 70% 70%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5 -5	105 97 105 105	98 93 101 101	106	
		OCUPME-003 EPD-09826	Slope Formation Works[1] Group A Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Loader, wheeled	1 3 3 2 2	70% 70% 70% 70% 70%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5 -5 -5	105 105 103 101 96	107		
3.2	3.3a	OCUPME-003 EPD-09826	Group B Breaker, mini-robot mounted (for local boulder/concrete maintenance access) Hand-held Percussive Breaker	1 1	60% 50%	Movable Noise Barrier Movable Noise Barrier	-5 -5	115 100	108 92	108	
		EPD-09710 OCUPME-012 OCUPME-014 OCUPME-015 EPD-03347	Group C Air Compressor Drill rig, rotary type (diesel) Grout Mixer Grout Pump Generator	3 3 2 2 3	100% 100% 70% 70% 100%	Movable Noise Barrier Noise Insulating Fabric Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-10 -10 -10 -10 -10	94 110 90 105 93	89 105 81 96 88	106	
3.2	3.3a	CNP 044 OCUPME-019 CNP 050 OCUPME-014 OCUPME-015 EPD-03347	Group D Concrete lorry mixer Poker, vibratory, hand-held (electric) Compactor, vibratory Grout Mixer Grout Pump Generator	2 2 2 2 2 3	70% 70% 70% 70% 70% 100%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -10 -10 -10 -10 -10	109 102 105 105 105 93	105 93 101 90 96 88	108	
		EPD-07836 EPD-09366 EPD-10780 OCUPME-038 OCUPME-036	Road Widening Works, Noise Barriers & Pipe Pile Wall / L-Shape Retaining Wall Installation Foundation of Noise Barrier [1] Group A Bulldozer, tracked Loader, wheeled Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2 2 2 2	80% 80% 80% 80%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5 -5	105 100 97 102	102 97 98 106		
3.3a	3.3b	OCUPME-036	Group B Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102	102	
		OCUPME-012	Group C Drill rig, rotary type (diesel)	3	80%	Noise Insulating Fabric	-10	110	104	104	
3.3a	3.3b	EPD-07836 EPD-10780 OCUPME-038	Group D Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 1 1	70% 70% 70%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5	105 97 98	98 98 102		
		OCUPME-003 EPD-09826	Group E Breaker, mini-robot mounted (for local boulder/concrete maintenance access) Hand-held Percussive Breaker	1 1	60% 50%	Purpose-built Noise Barrier Movable Noise Barrier	-10 -5	115 100	103 92	103	
3.3a	3.3b	OCUPME-018 EIA Ref 1	Group F Vibratory hammer for sheet piling installation Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1 1	70% 70%	Noise Insulating Fabric Noise Insulating Fabric	-10 -10	115 94	103 92	104	
		CNP 044 CNP 047 OCUPME-019	Pile Cap, L-retaining Wall and Formation of new road [1] Group A Concrete lorry mixer Concrete pump, stationary mounted Poker, vibratory, hand-held (electric)	2 2 3	70% 70% 80%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -10 -10	109 109 102	105 100 96	107	
3.3a	3.3b	CNP 050 EPD-09720 EPD-03347	Group B Compactor, vibratory Roller, vibratory Generator	6 2 2	80% 80% 100%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -10	105 94 93	107 91 86	107	
		CNP 166	Group C Piling, large diameter bored, reverse circulation drill	1	70%	Noise Insulating Fabric	-10	100	88	88	
3.3a	3.3b	CNP 165	Group D Piling, large diameter bored, oscillator	1	70%	Noise Insulating Fabric	-10	115	103	103	
		CNP 164 EPD-10792	Group E Piling, large diameter bored, grab and chisel Crane, mobile	1 1	70% 70%	Noise Insulating Fabric Movable Noise Barrier	-10 -10	115 101	103 94	104	
3.3a	3.3b	EPD-07836 EPD-10780 OCUPME-038 OCUPME-003 EPD-09826	Group F Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Breaker, mini-robot mounted (for local boulder/concrete maintenance access) Hand-held Percussive Breaker	1 1 1 1 1	70% 70% 70% 60% 50%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Purpose-built Noise Barrier Movable Noise Barrier	-5 -5 -5 -10 -5	105 97 100 115 100	98 90 98 103 92	106	
		OCUPME-018 EIA Ref 1	Group G Vibratory hammer for sheet piling installation Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1 1	70% 70%	Noise Insulating Fabric Noise Insulating Fabric	-10 -10	115 94	103 92	104	
3.3a	3.3b	OCUPME-012 EPD-10792	Group H Drilling rig for pipe pile wall (retaining wall) Crane, mobile	1 1	70% 70%	Noise Insulating Fabric Movable Noise Barrier	-10 -5	110 101	98 94	100	
		EPD-10792	Erection of structural steel post for noise barrier Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100	100	
3.3d	3.4a	EPD-10792	Installation of steel member and noise barrier panel Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100	100	
		OCUPME-040	Aerial work platform, working height < 13m	3	50%	Movable Noise Barrier	-5	95	92	100	
3.4a	3.4b	EPD-07836 EPD-10780 EPD-09826 OCUPME-038 OCUPME-036	Roadworks (Flexible Pavement), Signage, Drainage Utilities Diversion Bulldozer, tracked Excavator, wheeled/tracked Hand-held Percussive Breaker Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 1 1 1 1	80% 80% 80% 80% 80%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5 -5 -5	105 97 100 105 105	99 91 94 99 104	104	
		EPD-07836 EPD-10780 CNP 024 OCUPME-038 OCUPME-036	Road Drainage Bulldozer, tracked Excavator, wheeled/tracked Breaker, hand-held, mass > 10kg and < 20kg Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 1 1 1 1	80% 80% 80% 80% 80%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5 -5 -5	105 97 108 105 105	99 91 102 99 99	106	
3.4c	3.4d	EPD-09366	Road Surfacing [1] Group A Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103	103	
		CNP 050 EPD-01226R CNP 161	Group B Compactor, vibratory Asphalt Paver Paint line marker	6 2 2	100% 100% 50%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5	105 104 90	108 102 85	109	
3.4c	3.4d	CNP 044 OCUPME-019 EPD-03347	Group C Concrete lorry mixer Poker, vibratory, hand-held (electric) Generator	2 2 2	70% 50% 100%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -10 -10	109 102 93	105 92 86	106	
		EPD-10792	Roadlighting and E&M works Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96	96	
3.5	3.5	EPD-10780 EPD-09366 OCUPME-036	Landscape Works for Slope Excavator, wheeled/tracked Loader, wheeled Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1 1 1	70% 70% 70%	Movable Noise Barrier Movable Noise Barrier Movable Noise Barrier	-5 -5 -5	97 100 98	90 93 100	100	

Appendix 4.8 Plant Inventory (Mitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)			
4	4.1	EPD-07836 EPD-10780 OCUPME-038 OCUPME-036 OCUPME-036	Site Clearance											
			Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98			106		
			Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			106				
	4.2	EPD-07836 EPD-10780 OCUPME-038 OCUPME-036 EPD-09366 OCUPME-003 EPD-09826 OCUPME-012 OCUPME-014 OCUPME-015 EPD-03347 CNP 044 OCUPME-019 CNP 050 OCUPME-014 OCUPME-015 EPD-03347	Slope Formation Works [1]											
			Group A											
			Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
			Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	103					
			Loader, wheeled	2	70%	Movable Noise Barrier	-5	100	96			107		
			Group B											
			Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%	Movable Noise Barrier	-5	115	108					
			Hand-held Percussive Breaker	1	50%	Movable Noise Barrier	-5	100	92			108		
			Group C											
			Air Compressor	3	100%	Movable Noise Barrier	-10	94	89					
			Drill rig, rotary type (diesel)	3	100%	Noise Insulating Fabric	-10	110	105					
			Grout Mixer	2	70%	Movable Noise Barrier	-10	90	81					
			Grout Pump	2	70%	Movable Noise Barrier	-10	105	96					
			Generator	3	100%	Movable Noise Barrier	-10	93	88			106		
			Group D											
			Concrete terry mixer	2	70%	Movable Noise Barrier	-5	109	105					
			Poker, vibratory, hand-held (electric)	2	70%	Movable Noise Barrier	-10	102	93					
			Compactor, vibratory	2	70%	Movable Noise Barrier	-5	105	101					
			Grout Mixer	2	70%	Movable Noise Barrier	-10	90	81					
			Grout Pump	2	70%	Movable Noise Barrier	-10	105	96					
			Generator	3	100%	Movable Noise Barrier	-10	93	88			108		
			4.3a	EPD-07836 EPD-09366 EPD-10780 OCUPME-038 OCUPME-036 OCUPME-012 EPD-07836 EPD-10780 OCUPME-038 OCUPME-003 EPD-09826 OCUPME-018 EIA Ref 1	Road Widening Works, Noise Barriers & Pipe Pile Wall / L-Shape Retaining Wall Installation									
	Foundation of Noise Barrier [1]													
	Group A													
	Bulldozer, tracked	1			80%	Movable Noise Barrier	-5	105	99					
	Loader, wheeled	2			80%	Movable Noise Barrier	-5	100	97					
	Excavator, wheeled/tracked	2			80%	Movable Noise Barrier	-5	97	94			104		
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1			80%	Movable Noise Barrier	-5	105	99					
	Group B													
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2			80%	Movable Noise Barrier	-5	105	102			102		
	Group C													
	Drill rig, rotary type (diesel)	3			80%	Noise Insulating Fabric	-10	110	104			104		
	Group D													
	Bulldozer, tracked	1			70%	Movable Noise Barrier	-5	105	98					
	Excavator, wheeled/tracked	1			70%	Movable Noise Barrier	-5	97	90					
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1			70%	Movable Noise Barrier	-5	105	98			102		
	Group E													
	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1			60%	Purpose-built Noise Barrier	-10	115	103					
	Hand-held Percussive Breaker	1			50%	Movable Noise Barrier	-5	100	92			103		
	Group F													
	Vibratory hammer for sheet piling installation	1			70%	Noise Insulating Fabric	-10	115	103					
	Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1			70%	Noise Insulating Fabric	-10	94	92			104		
	Pile Cap, L-retaining Wall and Formation of new road [1]													
	Group A													
	Concrete terry mixer	2			70%	Movable Noise Barrier	-5	109	105					
	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100							
	Poker, vibratory, hand-held (electric)	3	80%	Movable Noise Barrier	-10	102	96			107				
	Group B													
	Compactor, vibratory	5	80%	Movable Noise Barrier	-5	105	106							
	Roller, vibratory	2	80%	Movable Noise Barrier	-5	94	91							
	Generator	2	100%	Movable Noise Barrier	-10	93	86			106				
	4.3c	EPD-10792	Erection of structural steel post for noise barrier									100		
			Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100	100				
	4.3d	EPD-10792 OCUPME-040	Installation of steel member and noise barrier panel									100		
			Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100	100				
	Aerial work platform, working height ≤ 13m	3	50%	Movable Noise Barrier	-5	95	92		100					
	4.4a	EPD-07836 EPD-10780 EPD-09826 OCUPME-038 OCUPME-036	Roadworks (Flexible Pavement), Signage, Drainage											
			Utilities Diversion											
			Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99			104		
			Excavator, wheeled/tracked	1	80%	Movable Noise Barrier	-5	97	91					
	Hand-held Percussive Breaker	1	80%	Movable Noise Barrier	-5	100	94							
	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99							
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99			104				
	4.4b	EPD-07836 EPD-10780 CNP 024 OCUPME-038 OCUPME-036	Road Drainage											
			Bulldozer, tracked	1	80%	Movable Noise Barrier	-5	105	99			106		
			Excavator, wheeled/tracked	1	80%	Movable Noise Barrier	-5	97	91					
			Breaker, hand-held, mass > 10kg < 20kg	1	80%	Movable Noise Barrier	-5	108	102					
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99					
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%	Movable Noise Barrier	-5	105	99			106		
			4.4c	EPD-09366 CNP 050 EPD-01226R CNP 161 CNP 044 OCUPME-019 EPD-03347	Road Surfacing [1]									
					Group A									
					Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103			103
					Group B									
	Compactor, vibratory	4			100%	Movable Noise Barrier	-5	105	106					
	Asphalt Paver	2			100%	Movable Noise Barrier	-5	104	102					
	Paint line marker	2			50%	Movable Noise Barrier	-5	90	85			107		
	Group C													
	Concrete terry mixer	2			70%	Movable Noise Barrier	-5	109	105					
	Poker, vibratory, hand-held (electric)	2			50%	Movable Noise Barrier	-10	102	93					
	Generator	2	100%	Movable Noise Barrier	-10	93	86			106				
	4.4d	EPD-10792	Roadlighting and E&M works									96		
			Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96	96				
	4.5	EPD-10780 EPD-09366 OCUPME-036	Landscape Works for Slope											
			Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90			100		
			Loader, wheeled	1	70%	Movable Noise Barrier	-5	100	93					
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98			100		
	5.1	EPD-07836 EPD-10780 OCUPME-038 OCUPME-036	Site Clearance											
			Bulldozer, tracked	1	50%	Movable Noise Barrier	-5	105	97			105		
			Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			105				
	5.2	EPD-10780 OCUPME-003 EIA Ref 3 OCUPME-038 OCUPME-036 EPD-09710 OCUPME-018 EIA Ref 1 OCUPME-012 CNP 049 OCUPME-014 OCUPME-015 CNP 044 OCUPME-019 CNP 050 CNP 166 CNP 165 CNP 164 EPD-10792 EPD-03347	Site Formation Works for TBM launching shaft at Shatin Portal, Site Formation Works for Vent. Blg at Shatin Portal and Road Widening works at Toll Plaza											
			Excavator, wheeled/tracked	3	100%	Movable Noise Barrier	-5	97	97			117		
Breaker, mini-robot mounted			3	100%	Movable Noise Barrier	-5	115	115						
Hydraulic splitter for rock/concrete for control demolition/site clearance			2	50%	Movable Noise Barrier	-5	110	105						
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			3	100%	Movable Noise Barrier	-5	105	105						
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne			3	70%	Movable Noise Barrier	-5	105	103						
Air Compressor			2	100%	Movable Noise Barrier	-10	94	87						
Vibratory hammer for sheet piling installation			1	70%	Noise Insulating Fabric	-10	115	103						
Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)			1	70%	Noise Insulating Fabric	0	94	92						
Drill rig, rotary type (diesel)			2	70%	Noise Insulating Fabric	-10	110	101						
Crane, tower (electric)			1	70%	Noise Insulating Fabric	0	95	93						
Grout Mixer			1	100%	Movable Noise Barrier	-10	90	80						
Grout Pump			1	100%	Movable Noise Barrier	-10	105	95						
Concrete terry mixer			1	70%	Movable Noise Barrier	-5	109	102						
Poker, vibratory, hand-held (electric)			1	50%	Movable Noise Barrier	-10	102	89						
Compactor, vibratory			2	50%	Movable Noise Barrier	-5	105	100						
Piling, large diameter bored, reverse circulation drill			2	70%	Noise Insulating Fabric	-10	100	91						
Piling, large diameter bored, oscillator			2	70%	Noise Insulating Fabric	-10	115	106						
Piling, large diameter bored, grab and chisel			2	70%	Noise Insulating Fabric	-10	115	106						
Crane, mobile			2	70%	Movable Noise Barrier	-5	101	97						
Generator			2	100%	Movable Noise Barrier	-10	93	86			117			

Appendix 4.8 Plant Inventory (Mitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)			
5	5.3	Slope Formation Works at Shatin Portal										112		
		EPD-10780	Excavator, wheeled/tracked	3	100%	Movable Noise Barrier	-5	97	97					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
		EPD-09710	Air Compressor	3	100%	Movable Noise Barrier	-10	94	89					
		OCUPME-012	Drill rig, rotary type (diesel)	3	100%	Noise Insulating Fabric	-10	110	105					
		OCUPME-014	Grout mixer	2	70%	Movable Noise Barrier	-10	90	81					
		OCUPME-015	Grout Pump	2	70%	Movable Noise Barrier	-10	105	96					
		CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105					
		CNP 050	Compactor, vibratory	5	70%	Movable Noise Barrier	-5	105	105					
		EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		112			
5	5.4	Construction Works for New Ventilation Building										114		
		CNP 166	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91					
		CNP 165	Piling, large diameter bored, oscillator	2	70%	Noise Insulating Fabric	-10	115	106					
		CNP 164	Piling, large diameter bored, grab and chisel	2	70%	Noise Insulating Fabric	-10	115	106					
		EPD-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97					
		EPD-07836	Bulldozer, tracked	2	70%	Movable Noise Barrier	-5	105	101					
		EPD-10780	Excavator, wheeled/tracked	3	70%	Movable Noise Barrier	-5	97	95					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103					
		EPD-09710	Air Compressor	3	100%	Movable Noise Barrier	-10	94	89					
		OCUPME-012	Drill rig, rotary type (diesel)	3	70%	Noise Insulating Fabric	-10	110	103					
CNP 021	Bar bender and cutter (electric)	3	70%	Movable Noise Barrier	-5	90	88							
CNP 044	Concrete lorry mixer	3	70%	Movable Noise Barrier	-5	109	107							
CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100							
CNP 050	Compactor, vibratory	3	70%	Movable Noise Barrier	-5	105	103							
OCUPME-019	Poker, vibratory, hand-held (electric)	3	70%	Movable Noise Barrier	-10	102	95							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		114					
5	5.5	Demolition Works										108		
		EPD-07836	Bulldozer, tracked	2	100%	Movable Noise Barrier	-5	105	103					
		OCUPME-008	Concrete crusher, excavator mounted	2	100%	Movable Noise Barrier	-5	103	101					
		EPD-10780	Excavator, wheeled/tracked	2	100%	Movable Noise Barrier	-5	97	95					
		EPD-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	103					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	103			108		
		5	5.6	Construction of Conveyor Belt for Tunneling Works										106
				EPD-10780	Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90			
				OCUPME-016	Welder/Generator, portable	1	70%	Movable Noise Barrier	-10	100	88			
				EPD-10792	Crane, mobile	1	70%	Movable Noise Barrier	-5	101	94			
OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne			1	70%	Movable Noise Barrier	-5	105	98					
EPD-09710	Air Compressor			1	70%	Movable Noise Barrier	-10	94	82					
OCUPME-012	Drill rig, rotary type (diesel)			1	70%	Noise Insulating Fabric	-10	110	98					
CNP 021	Bar bender and cutter (electric)			1	70%	Movable Noise Barrier	-5	90	83					
CNP 044	Concrete lorry mixer			1	70%	Movable Noise Barrier	-5	109	102					
OCUPME-019	Poker, vibratory, hand-held (electric)			1	50%	Movable Noise Barrier	-10	102	89					
CNP 050	Compactor, vibratory			1	70%	Movable Noise Barrier	-5	105	98		106			
5	5.7	Construction of New Surge Tank and Watermain Diversion Planning										107		
		EPD-10780	Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98					
		EPD-09710	Air Compressor	1	70%	Movable Noise Barrier	-10	94	82					
		OCUPME-012	Drill rig, rotary type (diesel)	1	70%	Noise Insulating Fabric	-10	110	98					
		CNP 021	Bar bender and cutter (electric)	1	70%	Movable Noise Barrier	-5	90	83					
		CNP 044	Concrete lorry mixer	1	70%	Movable Noise Barrier	-5	109	102					
		OCUPME-019	Poker, vibratory, hand-held (electric)	1	50%	Movable Noise Barrier	-10	102	89					
		CNP 050	Compactor, vibratory	1	50%	Movable Noise Barrier	-5	105	97					
		EPD-03347	Generator	1	100%	Movable Noise Barrier	-10	93	83		107			
5	5.8	Construction Works for New Administration Building										113		
		CNP 166	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91					
		CNP 165	Piling, large diameter bored, oscillator	2	70%	Noise Insulating Fabric	-10	115	106					
		CNP 164	Piling, large diameter bored, grab and chisel	2	70%	Noise Insulating Fabric	-10	115	106					
		EPD-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97					
		EPD-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
		EPD-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		EPD-09710	Air Compressor	2	100%	Movable Noise Barrier	-10	94	87					
		OCUPME-012	Drill rig, rotary type (diesel)	2	70%	Noise Insulating Fabric	-10	110	101					
CNP 021	Bar bender and cutter (electric)	3	70%	Movable Noise Barrier	-5	90	88							
CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105							
CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	97							
CNP 050	Compactor, vibratory	3	70%	Movable Noise Barrier	-5	105	103							
OCUPME-019	Poker, vibratory, hand-held (electric)	3	70%	Movable Noise Barrier	-10	102	95							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		113					
5	5.9	Construction of New Vehicular Bridge & Footbridge										113		
		EPD-09366	Loader, wheeled	2	80%	Movable Noise Barrier	-5	100	97					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105					
		CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100					
		OCUPME-019	Poker, vibratory, hand-held (electric)	4	80%	Movable Noise Barrier	-10	102	97					
		CNP 050	Compactor, vibratory	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-09720	Roller, vibratory	2	80%	Movable Noise Barrier	-5	94	88					
		EPD-10792	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91					
CNP 165	Piling, large diameter bored, oscillator	2	70%	Noise Insulating Fabric	-10	115	106							
CNP 164	Piling, large diameter bored, grab and chisel	2	70%	Noise Insulating Fabric	-10	115	106							
EPD-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		113					
5	5.10	Construction of New Footbridge										111		
		EPD-09366	Loader, wheeled	2	80%	Movable Noise Barrier	-5	100	97					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-012	Drill rig, rotary type (diesel)	2	80%	Noise Insulating Fabric	-10	110	102					
		EPD-10792	Crane, mobile	2	80%	Movable Noise Barrier	-5	101	98					
		CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105					
		CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100					
		OCUPME-019	Poker, vibratory, hand-held (electric)	4	80%	Movable Noise Barrier	-10	102	97					
		CNP 050	Compactor, vibratory	2	80%	Movable Noise Barrier	-5	105	102					
EPD-09720	Roller, vibratory	1	80%	Movable Noise Barrier	-5	94	88							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		111					
5	5.11	Roadworks (Flexible Pavement), Signage and Drainage and Connection of 3 existing water mains to surge tank [1]										116		
		EPD-07836	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-003	Breaker, mini-robot mounted	2	80%	Movable Noise Barrier	-5	115	112					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-10792	Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96					
		EPD-09366	Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103					
		CNP 050	Compactor, vibratory	6	100%	Movable Noise Barrier	-5	105	108					
		CNP 004	Asphalt Paver	2	100%	Movable Noise Barrier	-5	109	107					
		CNP 161	Paint line marker	2	50%	Movable Noise Barrier	-5	90	85					
CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105							
OCUPME-019	Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	92							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86		116					
5	5.12	Construction of Car Parking Facilities										116		
		EPD-07836	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-003	Breaker, mini-robot mounted	2	80%	Movable Noise Barrier	-5	115	112					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-10792	Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96					
		EPD-09366	Loader, wheeled	6	100%	Movable Noise Barrier	-5							

Appendix 4.8 Plant Inventory (Mitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)							
6	6.1	Construction of New Middle Third Tunnel																
		At Shatin Tin Portal																
		EIA Ref 2	Tunnel Boring Machine	1	100%	Inside Tunnel	-10	88	78									
		CNP 041	Conveyor belt	1	100%	Noise Enclosure	-15	90	75									
		CNP 049	Crane, tower (electric)	1	70%			95	93									
		CNP 262	Winch (electric)	1	70%			95	93									
		OCUPME-012	Drill rig, rotary type (diesel)	1	70%	Noise Insulating Fabric	-10	110	103									
		EPO-10792	Crane, mobile	1	50%			101	98									
		EPO-07836	Bulldozer, tracked	1	70%			105	103									
		EPO-09720	Roller, vibratory	2	60%			94	95									
		EPO-09366	Loader, wheeled	2	80%			100	102									
		OCUPME-016	Welder/Generator, portable	3	70%			100	103									
		CNP 283	Water pump, submersible (electric)	2	100%			85	88									
		CNP 021	Bar bender and cutter (electric)	2	100%			90	93									
		OCUPME-020	Power pack (diesel)	1	100%	Movable Noise Barrier	-5	100	95									
		CNP 182	Rock drill, crawler mounted (hydraulic) / Breaker, excavator mounted (hydraulic)	1	80%	Movable Noise Barrier	-5	123	117									
		CNP 050	Compactor, vibratory	2	70%	Movable Noise Barrier	-5	105	101									
		OCUPME-041	Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	3	80%			104	108									
		EPO-10792	Crane, mobile	2	80%			101	103									
		OCUPME-002	Air blower	5	100%			95	102									
		OCUPME-040	Aerial work platform, working height ≤ 13m	3	70%			95	98									
		CNP 241	Ventilation fan	2	100%	Noise Enclosure	-15	108	96									
		EPO-09826	Hand-held Percussive Breaker	2	50%			100	100									
		CNP 141	Multi-service vehicle	1	100%			112	112									
		CNP 102	Generator	2	100%			100	103									
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	100%			105	105									
		CNP 044	Concrete lorry mixer	1	100%			109	109									
		CNP 047	Concrete pump, stationary mounted	1	100%	Movable Noise Barrier	-10	109	99									
		OCUPME-014	Grout Mixer	2	100%	Movable Noise Barrier	-10	90	83									
		CNP 002	Air Compressor	2	100%	Movable Noise Barrier	-10	102	95									
		EPO-10780	Excavator, wheeled/tracked	1	70%			97	95									
		OCUPME-031	Water jetting unit (diesel), standard	2	80%			107	109									
		6	6.1a	At Kowloon Portal														
				OCUPME-020	Power pack (diesel)	1	100%	Movable Noise Barrier	-5	100	95							
				CNP 182	Rock drill, crawler mounted (hydraulic) / Breaker, excavator mounted (hydraulic)	1	80%	Purpose-built Noise Barrier	-10	123	112							
				OCUPME-012	Drill rig, rotary type (diesel)	3	70%	Noise Insulating Fabric	-10	110	103							
				EPO-10792	Crane, mobile	1	50%			101	98							
				EPO-07836	Bulldozer, tracked	1	70%			105	103							
				EPO-09720	Roller, vibratory	2	60%			94	95							
				EPO-09366	Loader, wheeled	2	80%			100	102							
OCUPME-016	Welder/Generator, portable			3	70%			100	103									
CNP 283	Water pump, submersible (electric)			2	100%			85	88									
CNP 021	Bar bender and cutter (electric)			2	100%			90	93									
CNP 050	Compactor, vibratory			2	70%			105	106									
OCUPME-041	Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr			3	80%			104	108									
EPO-10792	Crane, mobile			2	80%			101	103									
OCUPME-040	Aerial work platform, working height ≤ 13m			3	70%			95	98									
EPO-09826	Hand-held Percussive Breaker			2	50%			100	97									
CNP 102	Generator			2	100%			100	103									
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			1	100%			105	105									
CNP 044	Concrete lorry mixer			1	100%			109	109									
CNP 047	Concrete pump, stationary mounted			1	100%	Movable Noise Barrier	-10	109	99									
OCUPME-014	Grout Mixer			2	100%	Movable Noise Barrier	-10	90	83									
CNP 002	Air Compressor			2	100%	Movable Noise Barrier	-10	102	95									
EPO-10780	Excavator, wheeled/tracked			1	70%			97	95									
OCUPME-031	Water jetting unit (diesel), standard			2	80%	Movable Noise Barrier	-10	107	99									
6	6.2			Enhancement of Existing Kowloon Bound Tunnel														
				CNP 028	Breaker, excavator mounted (hydraulic)	4	100%	Purpose-built Noise Barrier	-10	122	118							
				EPO-10780	Excavator, wheeled/tracked	4	100%	Purpose-built Noise Barrier	-10	97	93							
				CNP 241	Ventilation fan	2	100%	Noise Enclosure	-15	108	96							
				OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	4	70%	Movable Noise Barrier	-5	105	104							
				EPO-07836	Bulldozer, tracked	2	100%	Purpose-built Noise Barrier	-10	105	98							
				6	6.3	Rehabilitation of Existing Shatin Bound Tunnel												
						EPO-10780	Excavator, wheeled/tracked	1	70%	Purpose-built Noise Barrier	-10	97	85					
						CNP 028	Breaker, excavator mounted (hydraulic)	1	70%	Purpose-built Noise Barrier	-10	122	110					
						CNP 241	Ventilation fan	1	70%	Noise Enclosure	-15	108	96					
						OCUPME-028	Saw, wire	1	70%	Purpose-built Noise Barrier	-10	101	89					
						CNP 064	Drill, percussive, hand-held (electric)	1	50%	Purpose-built Noise Barrier	-10	103	90					
						EPO-09366	Loader, wheeled	1	100%	Purpose-built Noise Barrier	-10	100	90					
						OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			105	103					
						OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			105	103					
						OCUPME-040	Aerial work platform, working height ≤ 13m	1	70%	Purpose-built Noise Barrier	-10	95	83					
		CNP 044	Concrete lorry mixer			1	70%			109	107							
		OCUPME-019	Poker, vibratory, hand-held (electric)			2	50%	Purpose-built Noise Barrier	-10	102	92							
		EPO-03347	Generator			1	100%	Purpose-built Noise Barrier	-10	93	83							
		EPO-09710	Air Compressor			1	100%	Purpose-built Noise Barrier	-10	94	84							
		OCUPME-012	Drill rig, rotary type (diesel)			1	100%	Noise Insulating Fabric	-10	110	100							
		6	7.1			Site Clearance												
						EPO-07836	Bulldozer, tracked	1	50%	Movable Noise Barrier	-5	105	97					
						EPO-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
						OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
						OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
						6	7.2	Site Formation Works (Including New Ventilation Building) [1]										
								Group A										
								EPO-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98			
								EPO-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93			
								OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			
								OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			
								EPO-09710	Air Compressor	1	70%	Movable Noise Barrier	-10	94	82			
								OCUPME-012	Drill rig, rotary type (diesel)	1	70%	Noise Insulating Fabric	-10	110	98			
								OCUPME-014	Grout Mixer	1	70%	Movable Noise Barrier	-10	90	78			
								OCUPME-015	Grout Pump	1	70%	Movable Noise Barrier	-10	105	93			
								CNP 044	Concrete lorry mixer	1	70%	Movable Noise Barrier	-5	109	102			
								CNP 050	Compactor, vibratory	1	50%	Movable Noise Barrier	-5	105	97			
								OCUPME-019	Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	92			
								EPO-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86			
Group B																		
OCUPME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)							1	60%	Movable Noise Barrier	-5	115	108					
EPO-09826	Hand-held Percussive Breaker							1	50%	Movable Noise Barrier	-5	100	92					
EIA Ref 3	Hydraulic splitter for rock/concrete for control demolition/site clearance							1	50%	Movable Noise Barrier	-5	110	102					
6	7.3							Slope Formation Works at Portal [1]										
								Group A										
				EPO-07836	Bulldozer, tracked			4	100%	Movable Noise Barrier	-5	105	106					
				EPO-10780	Excavator, wheeled/tracked			4	100%	Movable Noise Barrier	-5	97	98					
				OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			4	70%	Movable Noise Barrier	-5	105	104					
				OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne			4	70%	Movable Noise Barrier	-5	105	104					
				EPO-09710	Air Compressor			4	100%	Movable Noise Barrier	-10	94	90					
				OCUPME-012	Drill rig, rotary type (diesel)			4	100%	Noise Insulating Fabric	-10	110	106					
				OCUPME-014	Grout Mixer			2	70%	Movable Noise Barrier	-10	90	81					
				OCUPME-015	Grout Pump			2	70%	Movable Noise Barrier	-10	105	96					
				CNP 047	Concrete pump, stationary mounted			1	70%	Movable Noise Barrier	-10	109	97					
				CNP 044	Concrete lorry mixer			2	70%	Movable Noise Barrier	-5	109	105					
				CNP 050	Compactor, vibratory			2	70%	Movable Noise Barrier	-5	105	101					
				OCUPME-019	Poker, vibratory, hand-held (electric)			2	50%	Movable Noise Barrier	-10	102	92					
				EPO-03347	Generator			2	100%	Movable Noise Barrier	-10	93	86					
				Group B														
				OCUPME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)			1	60%	Movable Noise Barrier	-5	115	108					
		EPO-09826	Hand-held Percussive Breaker	1	50%			Movable Noise Barrier	-5	100	92							
		EIA Ref 3	Hydraulic splitter for rock/concrete for control demolition/site clearance (for local boulder/concrete maintenance access)	1	50%			Movable Noise Barrier	-5	110	102							
		OCUPME-038	Vibratory hammer for sheet piling installation	1	70%			Noise Insulating Fabric	-10	115	103							
		EIA Ref 1	Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1	70%					94	92							

Appendix 4.8 Plant Inventory (Mitigated Scenario)

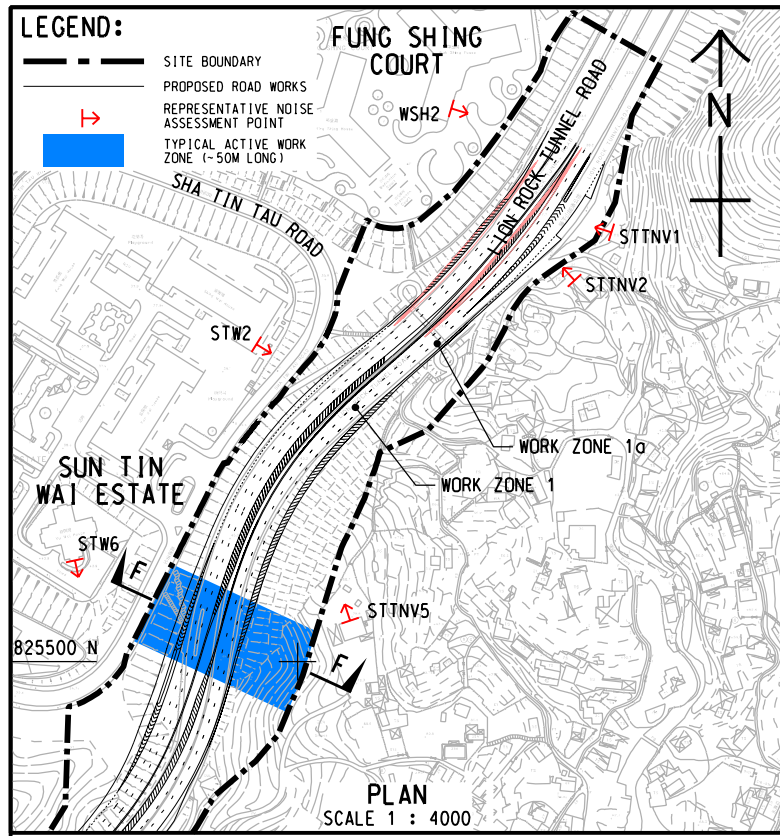
Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)			
7	7.4	Slope Formation Works for New Ventilation Building at Kowloon Side										109		
		EPD-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
		EPD-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		EPD-09710	Air Compressor	2	100%	Movable Noise Barrier	-10	94	87					
		OCUPME-012	Drill rig, rotary type (diesel)	2	100%	Noise Insulating Fabric	-10	110	103					
		OCUPME-014	Grout Mixer	1	70%	Movable Noise Barrier	-10	90	78					
		OCUPME-015	Grout Pump	1	70%	Movable Noise Barrier	-10	105	93					
		CNP 044	Concrete lorry mixer	1	70%	Movable Noise Barrier	-5	109	102					
		CNP 050	Compactor, vibratory	1	70%	Movable Noise Barrier	-5	105	98					
		OCUPME-019	Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	93					
		EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86			109		
		7	7.5	Construction Works for New Ventilation Building										113
				CNP 166	Piling, large diameter bored, reverse circulation drill	2	70%	Noise Insulating Fabric	-10	100	91			
				CNP 165	Oscillator for large Diameter Bored Pile	2	70%	Noise Insulating Fabric	-10	115	106			
				CNP 164	Crawler Crane with Grab and Chisel for Large Diameter Bored Pile	2	70%	Noise Insulating Fabric	-10	115	106			
				EPD-10792	Crane, mobile	2	70%	Movable Noise Barrier	-5	101	97			
				EPD-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98			
				EPD-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93			
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			2	70%	Movable Noise Barrier	-5	105	101					
OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne			2	70%	Movable Noise Barrier	-5	105	101					
EPD-09710	Air Compressor			2	100%	Movable Noise Barrier	-10	94	87					
OCUPME-012	Drill rig, rotary type (diesel)			2	70%	Noise Insulating Fabric	-10	110	101					
CNP 021	Bar bender and cutter (electric)			2	70%	Movable Noise Barrier	-5	90	86					
CNP 044	Concrete lorry mixer			2	70%	Movable Noise Barrier	-5	109	105					
CNP 047	Concrete pump, stationary mounted			1	70%	Movable Noise Barrier	-10	109	97					
CNP 050	Compactor, vibratory			3	70%	Movable Noise Barrier	-5	105	103					
OCUPME-019	Poker, vibratory, hand-held (electric)			3	50%	Movable Noise Barrier	-10	102	94					
EPD-03347	Generator			2	100%	Movable Noise Barrier	-10	93	86			113		
7	7.6			Demolition Works										111
				EPD-07836	Bulldozer, tracked	1	100%	Movable Noise Barrier	-5	105	100			
				OCUPME-003	Breaker, mini-robot mounted	1	100%	Movable Noise Barrier	-5	115	110			
		EPD-10780	Excavator, wheeled/tracked	1	100%	Movable Noise Barrier	-5	97	92					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98			111		
		7	7.7	Construction of Portal Structure [1]										109
				CNP 166	Piling, large diameter bored, reverse circulation drill	3	70%	Noise Insulating Fabric	-10	100	93		93	
				CNP 165	Piling, large diameter bored, oscillator	3	70%	Noise Insulating Fabric	-10	115	108		108	
				CNP 164	Piling, large diameter bored, grab and chisel	3	70%	Noise Insulating Fabric	-10	115	108		108	
EPD-10792	Crane, mobile			3	70%	Movable Noise Barrier	-5	101	99		109			
EPD-07836	Bulldozer, tracked			2	70%	Movable Noise Barrier	-5	105	101					
EPD-10780	Excavator, wheeled/tracked			2	70%	Movable Noise Barrier	-5	97	93					
OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne			3	70%	Movable Noise Barrier	-5	105	103					
OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne			3	70%	Movable Noise Barrier	-5	105	103			108		
EPD-09710	Air Compressor			2	100%	Movable Noise Barrier	-10	94	87					
OCUPME-012	Drill rig, rotary type (diesel)	2	70%	Noise Insulating Fabric	-10	110	101							
CNP 021	Bar bender and cutter (electric)	2	70%	Movable Noise Barrier	-5	90	86			102				
CNP 044	Concrete lorry mixer	3	70%	Movable Noise Barrier	-5	109	107							
CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100							
OCUPME-019	Poker, vibratory, hand-held (electric)	3	70%	Movable Noise Barrier	-10	102	95							
CNP 050	Compactor, vibratory	3	50%	Movable Noise Barrier	-10	105	97							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86			109				
8	8.1	Site Clearance										106		
		EPD-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98					
		EPD-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			106		
		8	8.2	Slope Formation Works [1]										108
				EPD-07836	Bulldozer, tracked	1	70%	Movable Noise Barrier	-5	105	98			
				EPD-10780	Excavator, wheeled/tracked	2	70%	Movable Noise Barrier	-5	97	93			
				OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%	Movable Noise Barrier	-5	105	103			
				OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%	Movable Noise Barrier	-5	105	101			
EPD-09366	Loader, wheeled			2	70%	Movable Noise Barrier	-5	100	96			107		
Group B: Soil Nailing Works:														
EPD-09710	Air Compressor			3	100%	Movable Noise Barrier	-10	94	89					
OCUPME-012	Drill rig, rotary type (diesel)			3	100%	Noise Insulating Fabric	-10	110	105					
OCUPME-014	Grout Mixer			2	70%	Movable Noise Barrier	-10	90	81					
OCUPME-015	Grout Pump	1	70%	Movable Noise Barrier	-10	105	96							
EPD-03347	Generator	3	100%	Movable Noise Barrier	-10	93	88			106				
Group C: Shortcreting Works / Retaining Wall Works / Maintenance Staircase:														
CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105							
OCUPME-019	Poker, vibratory, hand-held (electric)	2	70%	Movable Noise Barrier	-10	102	93							
CNP 050	Compactor, vibratory	2	70%	Movable Noise Barrier	-5	105	101							
OCUPME-014	Grout Mixer	2	70%	Movable Noise Barrier	-10	90	81							
OCUPME-015	Grout Pump	2	70%	Movable Noise Barrier	-10	105	96							
EPD-03347	Generator	3	100%	Movable Noise Barrier	-10	93	88			108				
8	8.3	Pipe Pile Wall / L-Shape Retaining Wall Installation [1]										108		
		EPD-07836	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-09366	Loader, wheeled	2	80%	Movable Noise Barrier	-5	100	97					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102			106		
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102			102		
		OCUPME-012	Drill rig, rotary type (diesel)	2	80%	Noise Insulating Fabric	-10	110	102			102		
		EPD-10792	Crane, mobile	3	80%	Movable Noise Barrier	-5	101	100			100		
		CNP 044	Concrete lorry mixer	3	70%	Movable Noise Barrier	-5	109	107					
		CNP 047	Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100					
OCUPME-019	Poker, vibratory, hand-held (electric)	3	80%	Movable Noise Barrier	-10	102	96			108				
CNP 050	Compactor, vibratory	4	80%	Movable Noise Barrier	-5	105	105							
EPD-09720	Roller, vibratory	2	80%	Movable Noise Barrier	-5	94	91							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86			105				
OCUPME-018	Vibratory hammer for sheet piling installation	1	70%	Noise Insulating Fabric	-10	115	103							
EIA Ref 1	Giken Piler and Power-pack (Silent piling by press-in method for sheet piling installation)	1	70%	Noise Insulating Fabric	-10	94	92			104				
8	8.4	Roadworks (Flexible Pavement), Signage, Drainage [1]										109		
		EPD-07836	Bulldozer, tracked	2	80%	Movable Noise Barrier	-5	105	102					
		EPD-10780	Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94					
		CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	2	80%	Movable Noise Barrier	-5	108	105					
		OCUPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102					
		OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102			109		
		EPD-10792	Crane, mobile	2	50%	Movable Noise Barrier	-5	101	96			96		
		EPD-09366	Loader, wheeled	6	100%	Movable Noise Barrier	-5	100	103			103		
		CNP 050	Compactor, vibratory	6	100%	Movable Noise Barrier	-5	105	108					
		EPD-01226R	Asphalt Paver	2	100%	Movable Noise Barrier	-5	104	102					
CNP 161	Paint line marker	2	50%	Movable Noise Barrier	-5	90	85			109				
CNP 044	Concrete lorry mixer	2	70%	Movable Noise Barrier	-5	109	105							
OCUPME-019	Poker, vibratory, hand-held (electric)	2	50%	Movable Noise Barrier	-10	102	92							
EPD-03347	Generator	2	100%	Movable Noise Barrier	-10	93	86			106				

Appendix 4.8 Plant Inventory (Mitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)
	8.5	EPD-10780 EPD-09366 OCUPME-036	Landscape Works for Slope								
			Excavator, wheeled/tracked	1	70%	Movable Noise Barrier	-5	97	90		
			Loader, wheeled	1	70%	Movable Noise Barrier	-5	100	93		
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98	100	
	8.6	EPD-09366 EPD-10780 OCUPME-038 OCUPME-036 OCUPME-012 EPD-10792 CNP 044 CNP 047 OCUPME-019 CNP 050 EPD-09720 EPD-09347	Construction of New Vehicular Bridge								
			Loader, wheeled	2	80%	Movable Noise Barrier	-5	100	97		
			Excavator, wheeled/tracked	2	80%	Movable Noise Barrier	-5	97	94		
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102		
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%	Movable Noise Barrier	-5	105	102		
			Drill rig, rotary type (diesel)	2	80%	Noise Insulating Fabric	-10	110	102		
			Crane, mobile	2	80%	Movable Noise Barrier	-5	101	98		
			Concrete terry mixer	2	70%	Movable Noise Barrier	-5	109	105		
			Concrete pump, stationary mounted	2	70%	Movable Noise Barrier	-10	109	100		
			Poker, vibratory, hand-held (electric)	4	80%	Movable Noise Barrier	-10	102	97		
			Compactor, vibratory	2	80%	Movable Noise Barrier	-5	105	102		
			Roller, vibratory	1	80%	Movable Noise Barrier	-5	94	88		
			Generator	2	100%	Movable Noise Barrier	-10	93	86		
	8.7	EPD-07836 OCUPME-003 EPD-10780 EPD-10792 OCUPME-038 OCUPME-036	Demolition Works								
			Bulldozer, tracked	1	100%	Movable Noise Barrier	-5	105	100		
			Breaker, mini-robot mounted	1	100%	Movable Noise Barrier	-5	115	110		
			Excavator, wheeled/tracked	1	100%	Movable Noise Barrier	-5	97	92		
			Crane, mobile	1	70%	Movable Noise Barrier	-5	101	94		
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98		
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%	Movable Noise Barrier	-5	105	98	111	

[1] Only 1 group of PME will be operated at the same time. Maximum of sub-SWL is adopted as conservative approach.
 [2] "Purpose-built barrier" indicates the Contractor should provide a purpose-built barrier to screen off the view angle between the PME and all NSR.

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:



REMARK :

1. THE CONTRACTOR SHOULD PLACE NOISE BARRIERS AT LOCATIONS WHERE THE DIRECT LINE OF SIGHT BETWEEN NSR AND THE PME IS BLOCKED. SIZE OF THE NOISE BARRIER TO BE DETERMINED IN THE CONSTRUCTION STAGE. REFER TO DRAWING NO.

AECOM

PROJECT
項目

IMPROVEMENT OF LION ROCK TUNNEL - INVESTIGATION

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I/R	DATE	DESCRIPTION	CHK.
設計	日期	修改描述	核對

STATUS
設計

SCALE **DIMENSION UNIT**
比例 尺寸單位

A3 AS SHOWN METRES

KEY PLAN
索引圖

PROJECT NO. **AGREEMENT NO.**
項目編號 協議編號

60604728 CE 48/2018(HY)

SHEET TITLE
圖紙名稱

DRAWING OF TYPICAL NOISE BARRIER ARRANGEMENT

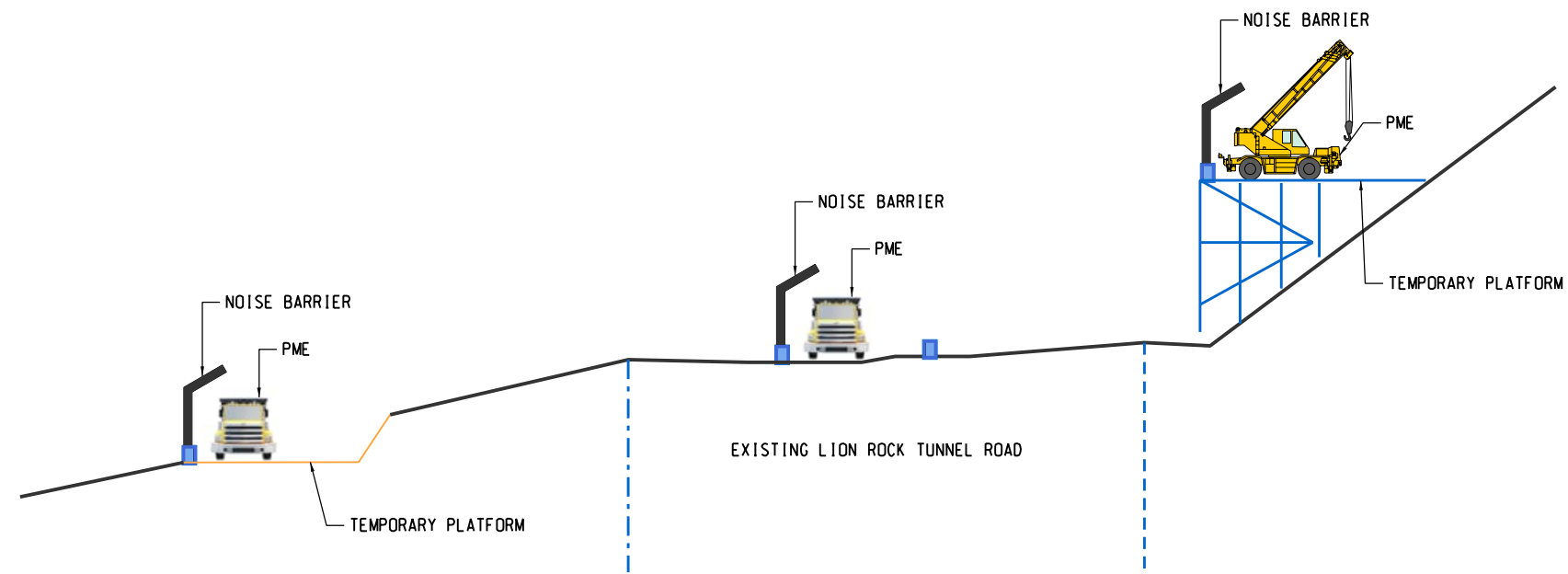
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NSR



SECTION F - F
N. T. S.

DRAWING OF TYPICAL NOISE BARRIER ARRANGEMENT (NOT TO SCALE)