

Appendix 4.4 Plant Inventory for Construction Noise Assessment (Mitigated)

(A) PLANT BUILDING

(i) Stage 1

PB1050 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
Group 1									
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	with CNP 072	
Water Pump (electric)	CNP 281	1	88	100%			88.0		
Group 2									
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters	
Group 3									
Air Compressor	CNP 002	1	102	20%		-15	80.0		
Hand Held Breaker	CNP 025	2	111	20%		-10	97.0		
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal	
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal	
Remark: * Mitigated by Acoustic Fabric							Group 1, dB(A)	99	
							Group 2, dB(A)	97	
							Group 3, dB(A)	99	
							Max. Noise Level, dB(A)	99	

PB1055 - Remove Trees

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Dump Truck with Grab	CNP 069	1	105	50%			102.0	
Overall Noise Level, dB(A)							102	

PB1060 - Sheet Piles to Extg Stairs & VSZ

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Giken Piler and Power-pack	Manufacture Catalog	1	94	30%			88.7	Giken's Catalog, the noise level at 7m is 69 dB(A)
Overall Noise Level, dB(A)							89	

PB1080 - Construct Vent Duct to VSZ

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1:								
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	
Group 2 (at Surface)								
Air Compressor	CNP 002	1	102	100%		-15	87.0	Spoil Removal
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Group 3 (at Surface)								
Lorry	CNP 142	2	105	20%			101.0	Spoil Removal
Conveyor	CNP 041	1	90	20%			83.0	
Group 4:								
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170 or with CNP 041
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Group 5 (at Surface)								
Mini Backhoe	CNP 082	1	94	60%			91.8	
Compactor, Vibratory	CNP 050	1	105	40%		-5	96.0	
Overall for the Group 1 =							97	
Overall for the Group 2 =							103	
Overall for the Group 3 =							101	
Group 4, Operated with CNP 170 =							95	
Group 4, Operated without CNP 170 =							93	
Overall for the Group 5 =							97	
Maximum Noise Level in all Groups =							103	

(ii) Stage 2

PB1220 - Pipe Piles/King Piles for Temp Entrance

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	with BS C7-114
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Grout Mixer	CNP 105	1	90	80%		-10	79.0	
Grout Pump	CNP 106	1	105	80%		-10	94.0	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	
Overall for Pipe Piles, dB(A)							108	
Overall for King Piles, dB(A)							108	
Max. Noise Level, dB(A)							108	

PB1270 - Construct Temporary Entrance (Part)

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated w CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	20%	-20		95.0	Alternately operated w CNP 082
Concrete Burster	CNP 051	1	90	10%	-20		60.0	Not with CNP 028
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface above Decking								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028
Lorry with Crane/Grab	CNP 145	2	105	20%			101.0	with CNP 082 and 028
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Crane, mobile #	BS C7-114	1	101	70%			99.5	
Operation with CNP 082							103	
Operation with CNP 028							104	
Max. Noise Level, dB(A)							104	

PB1280 - Decking in front of Temp Entrance^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Compactor	CNP 050	1	105	20%		-5	93.0	
Overall SWL for Daytime Activities, dB(A)							103	

(iii) Stage 3

BP1320 - Complete Temporary Entrance

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated w CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	20%	-20		95.0	Alternately operated w CNP 082
Concrete Burster	CNP 051	1	90	10%	-20		60.0	Not with CNP 028
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface above Decking								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028
Lorry with Crane/Grab	CNP 145	2	105	20%			101.0	with CNP 082 and 028
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Crane, mobile #	BS C7-114	1	101	70%			99.5	
Operation with CNP 082							103	
Operation with CNP 028							104	
Max. Noise Level, dB(A)							104	

PB1350 - Stairs & Ramp on Haiphong Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Compactor	CNP 050	1	105	20%		-5	93.0	
Overall Noise Level, dB(A)							103	

PB1370 - Divert Utilities Nathan Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Without Concrete Saw, dB(A)							103	
Concrete Saw only, dB(A)							97	
Max. Noise Level, dB(A)							103	

PB1380 - Pipe Piles & Sheet Piles Nathan Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	with BS C7-114
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Grout Mixer	CNP 105	1	90	80%		-10	79.0	Omit for King Piles
Grout Pump	CNP 106	1	105	80%		-10	94.0	Omit for King Piles
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	Spoil removal
Giken Piler and Power-pack	Manufacture Catalog	1	94	30%			88.7	Giken's Catalog, the noise level at 7m is 69 dB(A)
Overall Noise Level, dB(A)							108	

PB1390 - Decking to Cofferdam^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

(iv) Stage 4
PB1420 - Remove Ramp at Haiphong Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0	
Overall Noise Level, dB(A)							104	

PB1450 - Divert Utilities Haipong Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

PB1460 - Demolish Part Existing Entrance A1

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other Plant
Group 2 Air Compressor	CNP 002	1	102	100%		-15	87.0	max. 2 no. of equipments
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Concrete Burster	CNP 051	1	90	10%			80.0	
Dump truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil Removal
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Group 3 ^[1] Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1, dB(A)							97.0	
Group 2, dB(A)							103.4	
Overall SWL for Group 3 of Daytime Activities, dB(A)							102.8	
Max. Noise Level, dB(A)							103	

PB1480 - Pipe Piles, King Piles to Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	with BS C7-114
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	Omit for King Piles Omit for King Piles Spoil removal
Grout Mixer	CNP 105	1	90	80%		-10	79.0	
Grout Pump	CNP 106	1	105	80%		-10	94.0	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	
Overall for Pipe Piles, dB(A)							108	
Overall for King Piles, dB(A)							108	
Max. Noise Level, dB(A)							108	

(v) Stage 5

PB1540 - Remove Stairs, Construct Staging at Haiphong Road

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0	
Group 2 Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1, dB(A)							104	
Group 2, dB(A)							103	
Max Noise Level, dB(A)							104	

PB1550 - Demolish Existing Entrance A1

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other Plant
Group 2 Air Compressor	CNP 002	1	102	100%		-15	87.0	max. 2 no. of equipments
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Concrete Burster	CNP 051	1	90	10%			80.0	
Dump truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil Removal
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Group 3 ^[1] Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1, dB(A)							97	
Group 2, dB(A)							103	
Overall SWL for Group 3 of Daytime Activities, dB(A)							103	
Max. Noise Level, dB(A)							103	

PB1560 - Pipe Piles, King Piles to Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	with BS C7-114
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Grout Mixer	CNP 105	1	90	80%		-10	79.0	
Grout Pump	CNP 106	1	105	80%		-10	94.0	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	
Overall for Pipe Piles, dB(A)							108	
Overall for King Piles, dB(A)							108	
Max. Noise Level, dB(A)							108	

PB1570 - Excavate Plant Building

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 028 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface above Decking								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Crane, mobile #	BS C7-114	1	101	70%			99.5	Week 1 - 4 only
Electric Winches (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	Week 5 onwards
For Week 1 to 4, Operation with CNP 082							103	
For Week 1 to 4, Operation with CNP 028							105	
For Week 5 onwards, Operation with CNP 082							101	
For Week 5 onwards, Operation with CNP 028							103	
Max. Noise Level, dB(A)							105	

PB1580 - Earth Mat Installation 1

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Rock Drill	Ref 1	1	108	20%	-20		81.3	underground work
Overall Noise Level, dB(A)							81	

PB1590 - Construct Plant Building

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Overall with CNP 170, dB(A)							96	
Overall without CNP 170, dB(A)							93	
Max Noise Level, dB(A)							96	

(vi) Stage 6

PB1600 - Complete Plant Building to Degree 2

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Overall with CNP 170, dB(A)							96	
Overall without CNP 170, dB(A)							93	
Max Noise Level, dB(A)							96	

(vii) Building Services
PB2600 - BS Installation ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

Note: All work Inside the Building beside Lorry

(B) ENTRANCE A1

(i) Constructuon

PB1700 - Complete PB Roof Ducts

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Overall with CNP 170, dB(A)							96	
Overall without CNP 170, dB(A)							93	
Max Noise Level, dB(A)							96	

PB1800 - Entrance Structure

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Poker, Vibratory, Hand-held #	BS C6-20	3	102	15%		-10	88.5	
Overall with CNP 170							97	
Overall without CNP 170							94	
Max Noise Level, dB(A)							97	

PB1810 - Glass Canopy ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

PB1850 - Remove Temporary Entrance ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0	
Overall SWL for Daytime Activities, dB(A)							104	

PB1900 - Backfill and Reinstate Ground Level

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1								
Lorry	CNP 142	2	105	20%			101.0	
Mini Backhoe	CNP 082	1	94	60%			91.8	
Compactor, Vibratory	CNP 050	1	105	40%		-5	96.0	
Group 2								
Conveyor	CNP 041	1	90	20%			83.0	
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	with CNP 041 only
Group 1, dB(A)							103	
Group 2, dB(A)							88	
Maximum Noise Level, dB(A)							103	

(ii) E&M Systemwide Lifts & Escalators
PB1830 - Escalator Installation ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

Remarks: Lorry would be located in Nathan Road not near "Entrance A1"

PB1880 - Lift Installation ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

Remarks: Both Mobile Crane and Lorry would be located in Nathan Road not near "Entrance A1"

(C) TST Connection Chamber

(i) TTM Stage 1

NS1140 - Re-align Footpath & Lane Marking

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max Noise Level, dB(A)							103	

NS1200 - Erect Hoardings

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	
Water Pump (electric)	CNP 281	1	88	100%			88.0	with CNP 072
Overall Noise Level, dB(A)							99	

Remark: * Mitigated by Acoustic Fabric

NS1220 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max Noise Level, dB(A)							103	

NS1240 - Install Cofferdam (1) & Ground Treatment

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1								
Air Compressor	CNP 003	1	104	80%		-15	88.0	Noise Barrier used
Grout Mixer	CNP 105	1	90	80%		-10	79.0	
Grout Pump	CNP 106	1	105	80%		-10	94.0	
Group 2								
Piling, Earth Auger, Auger *	CNP 167	1	114	80%		-10	103.0	Spoil removal from Giken's Catalog, the noise level at 7m is 69 dB(A)
Soil Pump	CNP 206	1	103	80%		-10	92.0	
Water Pump (Electric)	CNP 281	1	88	100%			88.0	
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8	
Giken Piler and Power-pack	Manufacture Catalog	1	94	30%			88.7	
Group 1, dB(A)							95	
Group 2, dB(A)							104	
Max. Noise Level, dB(A)							104	

Remark: * Mitigated by Acoustic Fabric

(ii) Stage 2
NS1270 - Install Cofferdam (2)

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Giken Piler and Power-pack	Manufacture Catalog	1	94	30%			88.7	from Giken's Catalog, the noise level at 7m is 69 dB(A)
Overall Noise Level, dB(A)							89	

NS1280 - Install Struct and Traffic Deck (2) ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

NS1290 - Excavate Shaft

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Hand Held Breaker	CNP 023	2	109	70%	-20		90.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
- At Surface								
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Ventilation Blower	-	1	95	100%		-15	80.0	
Electric Winch	CNP 262	1	95	70%		-10	83.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Grout Mixer	CNP 105	1	90	10%			80.0	
Grout Pump	CNP 106	1	105	10%			95.0	
Welder/Generator, Portable	CNP 107	1	99	10%		-10	79.0	
Overall Noise Level, dB(A)							99	

(iii) TTM Stage 3

NS3300 - Construction reception Chamber

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Overall with CNP 170, dB(A)							96	
Overall without CNP 170, dB(A)							93	
Max Noise Level, dB(A)							96	

NS3400 - Backfill & Reinststate Ground Level

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1								
Lorry	CNP 142	2	105	20%			101.0	
Mini Backhoe	CNP 082	1	94	60%			91.8	
Compactor, Vibratory	CNP 050	1	105	40%		-5	96.0	
Group 2								
Conveyor	CNP 041	1	90	20%			83.0	
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	with CNP 041 only
Group 1, dB(A)							103	
Group 2, dB(A)							88	
Overall Noise Level, dB(A)							103	

(D) Satellite Concourse

(i) TTM Stage 3

SC1010 - Dismantle Hoarding at TYB^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0	
Overall SWL for Daytime Activities, dB(A)							104	

SC1020 - Traffic Diversions

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max Noise Level, dB(A)							103	

SC1120 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	with CNP 072
Water Pump (electric)	CNP 281	1	88	100%			88.0	
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall without Concrete Saw, dB(A)							105	

SC1140 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max Noise Level, dB(A)							103	

SC1160 - Install Pipe Pile Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Grout Mixer	CNP 105	1	90	80%		-10	79.0	Omit for King Piles
Grout Pump	CNP 106	1	105	80%		-10	94.0	Omit for King Piles
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	Spoil removal
Piling, Earth Auger, Auger *	CNP 167	1	114	80%		-10	103.0	
Soil Pump	CNP 206	1	103	80%		-10	92.0	
Water Pump (Electric)	CNP 281	1	88	100%			88.0	
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8	Spoil removal
Overall Noise Level, dB(A)							110	

Remark: * Mitigated by Acoustic Fabric

SC1180 - Excavation and Support Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max Noise Level, dB(A)							103	

SC1200 - Excavate, Strut and Install Decking

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 - Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Group 2 - At Surface^[1]								
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028 Week 5 onwards
Electric Winches (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1 with CNP 082, dB(A)							101	
Group 1 with CNP 028, dB(A)							103	
Overall SWL for Group 2 of Daytime Activities, dB(A)							103	
Max. Noise Level, dB(A)							103	

SC1360 - Re-erect TYB Hoarding^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0	
Overall SWL for Daytime Activities, dB(A)							104	

(ii) TTM Stage 4

SC2000 - Divert Nathan Road S/B Slow Lane

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2010 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	with CNP 072 Spoil removal Spoil removal
Water Pump (electric)	CNP 281	1	88	100%			88.0	
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							105	

Remark: *Mitigated by Acoustic Fabric

SC2020 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2030 - Install Pipe Pile Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
Crane, mobile #	BS C7-114	1	101	10%			91.0	Omit for King Piles Omit for King Piles Spoil removal Spoil removal, with BS C7-114	
Rock Drill	Ref 1	1	108	80%			107.3		
Air Compressor	CNP 003	1	104	100%		-15	89.0		
Grout Mixer	CNP 105	1	90	80%		-10	79.0		
Grout Pump	CNP 106	1	105	80%		-10	94.0		
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0		
Piling, Earth Auger, Auger *	CNP 167	1	114	80%		-10	103.0		
Soil Pump	CNP 206	1	103	80%		-10	92.0		
Water Pump (Electric)	CNP 281	1	88	100%			88.0		
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8		
Overall Noise Level, dB(A)							110		

SC2035 - Sewer (375 dia) Diversion

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2040 - Excavation and Support Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2050 - Excavate, Strut and Install Decking

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1								
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Group 2 - At Surface^[1]								
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1 with CNP 082, dB(A)							101	
Group 1 with CNP 028, dB(A)							103	
Overall SWL for Group 2 of Daytime Activities, dB(A)							103	
Max. Noise Level, dB(A)							103	

(iii) TTM Stage 5 to 7

SC2100 - Divert Nathan Road S/B Slow Lane

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2125 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	with CNP 072 Spoil removal Spoil removal
Water Pump (electric)	CNP 281	1	88	100%			88.0	
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							105	

Remark: *Mitigated by Acoustic Fabric

SC2130 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2133 - Sewer Diversion

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2135 - Install Pipe Pile Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
Crane, mobile #	BS C7-114	1	101	10%			91.0	Omit for King Piles Omit for King Piles Spoil removal Spoil removal, with BS C7-114	
Rock Drill	Ref 1	1	108	80%			107.3		
Air Compressor	CNP 003	1	104	100%		-15	89.0		
Grout Mixer	CNP 105	1	90	80%		-10	79.0		
Grout Pump	CNP 106	1	105	80%		-10	94.0		
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0		
Piling, Earth Auger, Auger *	CNP 167	1	114	80%		-10	103.0		
Soil Pump	CNP 206	1	103	80%		-10	92.0		
Water Pump (Electric)	CNP 281	1	88	100%			88.0		
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8		
Overall Noise Level, dB(A)							110		

Remark: * Mitigated by Acoustic Fabric

SC2140 - Excavation and Support Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2145 - Excavate, Strut and Install Decking

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 - Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Group 2 - At Surface^[1]								
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028 Week 5 onwards
Electric Winches (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1 with CNP 082, dB(A)							101	
Group 1 with CNP 028, dB(A)							103	
Overall SWL for Group 2 of Daytime Activities, dB(A)							103	
Max. Noise Level, dB(A)							103	

(iv) TTM Stage 8

SC2180 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	with CNP 072 Spoil removal Spoil removal
Water Pump (electric)	CNP 281	1	88	100%			88.0	
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							105	

SC2200 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2220 - Install Pipe Pile Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Crane, mobile #	BS C7-114	1	101	10%			91.0	Omit for King Piles Omit for King Piles Spoil removal Spoil removal, with BS C7-114
Rock Drill	Ref 1	1	108	80%			107.3	
Air Compressor	CNP 003	1	104	100%		-15	89.0	
Grout Mixer	CNP 105	1	90	80%		-10	79.0	
Grout Pump	CNP 106	1	105	80%		-10	94.0	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0	
Piling, Earth Auger, Auger *	CNP 167	1	114	80%		-10	103.0	
Soil Pump	CNP 206	1	103	80%		-10	92.0	
Water Pump (Electric)	CNP 281	1	88	100%			88.0	
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8	
Overall Noise Level, dB(A)							110	

SC2240 - Excavation and Support Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Overall without Concrete Saw, dB(A)							103	
Concrete Saw							97	
Max. Noise Level, dB(A)							103	

SC2260 - Excavate, Strut and Install Decking

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Group 1 - Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Group 2 - At Surface^[1]								
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028 Week 5 onwards
Electric Winches (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Group 1 with CNP 082, dB(A)							101	
Group 1 with CNP 028, dB(A)							103	
Overall SWL for Group 2 of Daytime Activities, dB(A)							103	
Max. Noise Level, dB(A)							103	

SC2270 - Erect Noise Enclosure^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

SC2280 - Excavate 50% of Struct

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	
Concrete Burster	CNP 051	1	90	10%	-20		60.0	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface above Decking								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Crane, mobile #	BS C7-114	1	101	80%			100.0	
Operation with CNP 082							104	
Operation with CNP 028							105	
Max. Noise Level, dB(A)							105	

SC2300 - Grout Base of Excavation

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Air Compressor	CNP 003	1	104	80%	-20		83.0	under decking for this task Spoil removal
Piling, Earth Auger, Auger	CNP 167	1	114	80%	-20		93.0	
Soil Pump	CNP 206	1	103	80%	-20		82.0	
Grout Mixer	CNP 105	1	90	80%	-20		69.0	
Grout Pump	CNP 106	1	105	80%	-20		84.0	
Water Pump (Electric)	CNP 281	1	88	100%	-20		68.0	
Lorry with Crane/Grab	CNP 145	1	105	15%			96.8	
Overall Noise Level, dB(A)							99	

SC2320 - Excavate 100% Struct

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
- Under Decking									
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028 Alternately operated with CNP 082 Not with CNP 028	
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0		
Concrete Burster	CNP 051	1	90	10%	-20		60.0		
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0		
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0		
- At Surface above Decking									
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028 with CNP 082 and 028 Not with CNP 082 and 028	
Lorry	CNP 142	2	105	20%		-10	101.0		
Welder/Generator, Portable	CNP 107	1	99	40%			85.0		
Crane, mobile #	BS C7-114	1	101	80%			100.0		
							Operation with CNP 082	104	
							Operation with CNP 028	105	
							Max. Noise Level, dB(A)	105	

SC2360 - Construct SC

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
- Under Decking									
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5		
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0		
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0		
- At Surface									
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170	
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170	
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170	
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170	
							Overall with CNP 170, dB(A)	96	
							Overall without CNP 170, dB(A)	93	
							Max Noise Level, dB(A)	96	

SC2370 - Complete SC to Degree 2

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
- Under Decking									
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5		
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0		
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0		
- At Surface									
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170	
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170	
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170	
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170	
							Overall with CNP 170, dB(A)	96	
							Overall without CNP 170, dB(A)	93	
							Max Noise Level, dB(A)	96	

SC2380 - Backfill & Reinstate^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
Group 1									
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8		
Cutter, Circular, Steel	CNP 056	1	112	10%		-5	97.0		
Group 2									
Lorry	CNP 142	2	105	20%			101.0		
Mini Backhoe	CNP 082	1	94	60%			91.8		
Conveyor	CNP 041	1	90	20%			83.0		
Compactor, Vibratory	CNP 050	1	105	40%		-5	96.0		
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	with CNP 041 only	
							Overall SWL for Group 1 of Daytime Activities, dB(A)	104	
							Group 2, dB(A)	103	
							Max. Noise Level, dB(A)	104	

(v) E&M Systemwide
 SC3001 - E&M Installation in SC^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

(E) Subway TST
 (i) Construction
 ST1000 - Excavate Subway

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
At Shaft Top								
Ventilation Fan	CNP 241	2	108	100%		-15	96.0	On each face. In noise enclosure
Air Compressor	CNP 002	1	102	100%		-15	87.0	In noise enclosure
Electric Winch (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Hoist, passenger/material (electric)	CNP 122	1	95	40%		-10	81.0	Not used on TNS
Underground^[1]								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Rock Drill	Ref 1	2	108	10%	-20		81.3	Operated w/o other plant
Breaker, hand-held	CNP 023	6	108	60%	-20		93.6	On-time 10% in Subway MSC
Mini backhoe	CNP 082	2	94	80%	-20		76.0	
Conveyor	CNP 041	4	90	80%	-20		75.1	
Dumper	CNP 066	2	106	50%	-20		86.0	Transport in Tunnel
Overall Noise Level for Daytime Activities, dB(A)							99	

ST1120 - Connection to TST Connection Chamber

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Concrete Lorry Mixer #	BS C6-23	2	100	5%			90.0	max. 2 no. of equipments
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	8	113	15%	-20		93.8	
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
Grout Mixer	CNP 105	2	90	80%		-10	82.0	Last 4 weeks before completion of lining
Grout Pump	CNP 106	2	105	80%		-10	97.0	
Overall Noise Level, dB(A)							101	

ST1130 - Lining to Subway

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- At Shaft Top								
Concrete Pump (under Decking)	CNP 047	1	109	5%	-20		76.0	Under Shaft Decking
Concrete Lorry Mixer #	BS C6-23	2	100	5%			90.0	max. 2 no. of equipments
- At Underground								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Poker, Vibratory, Hand-held	CNP 170	8	113	15%	-20		93.8	
Grout Mixer	CNP 105	2	90	80%	-20		72.0	Last 4 weeks before completion of lining
Grout Pump	CNP 106	2	105	80%	-20		87.0	with CNP 105
Overall Noise Level, dB(A)							96	

(ii) E&M Systemwide
 ST3001 - E&M Installation in Subway TST^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

(F) Subway MSC

(i) Construction

SM1100 - Excavates Subway

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
At Shaft Top								
Ventilation Fan	CNP 241	2	108	100%		-15	96.0	On each face. In noise enclosure
Air Compressor	CNP 002	1	102	100%		-15	87.0	In noise enclosure
Electric Winch (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Hoist, passenger/material (electric)	CNP 122	1	95	40%		-10	81.0	Not used on TNS
Underground^[1]								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Rock Drill	Ref 1	2	108	10%	-20		81.3	Operated w/o other plant
Breaker, hand-held	CNP 023	6	108	10%	-20		85.8	On-time 10% in Subway MSC
Mini backhoe	CNP 082	2	94	80%	-20		76.0	
Conveyor	CNP 041	4	90	80%	-20		75.1	
Dumper	CNP 066	2	106	50%	-20		86.0	Transport in Tunnel
Group 4, dB(A)							86.5	
Overall Noise Level for Daytime Activities, dB(A)							98	

SM1120 - Excavate MSC Junction

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
At Shaft Top								
Crane, mobile #	BS C7-114	1	101	10%			91.0	
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	with BS C7-114
Ventilation Fan	CNP 241	2	108	100%		-15	96.0	On each face. In noise enclosure
Air Compressor	CNP 002	1	102	100%		-15	87.0	In noise enclosure
Electric Winch (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Hoist, passenger/material (electric)	CNP 122	1	95	40%		-10	81.0	Not used on TNS
Underground								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Breaker, hand-held	CNP 023	6	108	10%	-20		85.8	On-time 10% in Subway MSC
Mini backhoe	CNP 082	2	94	80%	-20		76.0	
Conveyor	CNP 041	4	90	80%	-20		75.1	
Dumper	CNP 066	2	106	50%	-20		86.0	Transport in Tunnel
Rock Drill	Ref 1	2	108	80%	-20		90.3	
Air Compressor	CNP 003	2	104	100%	-20		87.0	
Grout Mixer	CNP 105	2	90	80%	-20		72.0	Omit for King Piles
Grout Pump	CNP 106	2	105	80%	-20		87.0	Omit for King Piles
Dump Truck with Grab (or CNP 145)	CNP 069	2	105	20%	-20		81.0	Spoil removal
Overall Noise Level, dB(A)							100	

SM1140 - Excavate to MSC Boundary

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
At Shaft Top								
Crane, mobile #	BS C7-114	1	101	10%			91.0	
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	with BS C7-114
Ventilation Fan	CNP 241	2	108	100%		-15	96.0	On each face. In noise enclosure
Air Compressor	CNP 002	1	102	100%		-15	87.0	In noise enclosure
Electric Winch (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Hoist, passenger/material (electric)	CNP 122	1	95	40%		-10	81.0	Not used on TNS
Underground								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Breaker, hand-held	CNP 023	6	108	10%	-20		85.8	On-time 10% in Subway MSC
Mini backhoe	CNP 082	2	94	80%	-20		76.0	
Conveyor	CNP 041	4	90	80%	-20		75.1	
Dumper	CNP 066	2	106	50%	-20		86.0	Transport in Tunnel
Rock Drill	Ref 1	2	108	80%	-20		90.3	
Air Compressor	CNP 003	2	104	100%	-20		87.0	
Grout Mixer	CNP 105	2	90	80%	-20		72.0	Omit for King Piles
Grout Pump	CNP 106	2	105	80%	-20		87.0	Omit for King Piles
Dump Truck with Grab (or CNP 145)	CNP 069	2	105	20%	-20		81.0	Spoil removal
Overall Noise Level, dB(A)							100	

SM1150 - Excavate to ES Shaft

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
At Shaft Top								
Crane, mobile #	BS C7-114	1	101	10%			91.0	
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0	with BS C7-114
Ventilation Fan	CNP 241	2	108	100%		-15	96.0	On each face. In noise enclosure
Air Compressor	CNP 002	1	102	100%		-15	87.0	In noise enclosure
Electric Winch (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	
Hoist, passenger/material (electric)	CNP 122	1	95	40%		-10	81.0	Not used on TNS
Underground								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Breaker, hand-held	CNP 023	6	108	10%	-20		85.8	On-time 10% in Subway MSC
Mini backhoe	CNP 082	2	94	80%	-20		76.0	
Conveyor	CNP 041	4	90	80%	-20		75.1	
Dumper	CNP 066	2	106	50%	-20		86.0	Transport in Tunnel
Rock Drill	Ref 1	2	108	80%	-20		90.3	
Air Compressor	CNP 003	2	104	100%	-20		87.0	
Grout Mixer	CNP 105	2	90	80%	-20		72.0	Omit for King Piles
Grout Pump	CNP 106	2	105	80%	-20		87.0	Omit for King Piles
Dump Truck with Grab (or CNP 145)	CNP 069	2	105	20%	-20		81.0	Spoil removal
Overall Noise Level, dB(A)							100	

SM1200 - Lining to Subway

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- At Shaft Top								
Concrete Pump (under Decking)	CNP 047	1	109	5%	-20		76.0	Under Shaft Decking
Concrete Lorry Mixer #	BS C6-23	2	100	5%			90.0	max. 2 no. of equipments
- At Underground								
Water Pump, Submersible (Electric)	CNP 283	2	85	100%	-20		68.0	
Poker, Vibratory, Hand-held	CNP 170	8	113	15%	-20		93.8	
Grout Mixer	CNP 105	2	90	80%	-20		72.0	Last 4 weeks before completion of lining
Grout Pump	CNP 106	2	105	80%	-20		87.0	with CNP 105
Overall Noise Level, dB(A)							96	

(ii) E&M Systemwide

SM3001 - E&M Insatallation in Subway MSC^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

(G) Emergency Stair at MSC

(i) Construction

QM1140 - Erect Hoarding

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Drill rig, rotary type (diesel) *	CNP 072	1	110	80%		-10	99.0	
Water Pump (electric)	CNP 281	1	88	100%			88.0	with CNP 072
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	Spoil removal
Mini Backhoe	CNP 082	1	94	20%			87.0	Spoil removal
Overall Noise Level, dB(A)							105	
Remark: *Mitigated by Acoustic Fabric								

QM1150 - Remove Trees

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Dump Truck with Grab	CNP 069	1	105	50%			102.0	
Overall Noise Level, dB(A)							102	

QM1160 - Investigate Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Without Concrete Saw, dB(A)							103	
Concrete Saw only, dB(A)							97	
Max. Noise Level, dB(A)							103	

QM1180 - Install Cofferdam

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks	
Crane, mobile #	BS C7-114	1	101	10%			91.0	with BS C7-114 Omit for King Piles Omit for King Piles Spoil removal from Gilken's Catalog, the noise level at 7m is 69 dB(A)	
Lorry with Crane/Grab	CNP 145	1	105	5%			92.0		
Rock Drill	Ref 1	1	108	80%			107.3		
Air Compressor	CNP 003	1	104	100%		-15	89.0		
Grout Mixer	CNP 105	1	90	80%		-10	79.0		
Grout Pump	CNP 106	1	105	80%		-10	94.0		
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	20%			98.0		
Giken Piler and Power-pack	Manufacture Catalog	1	94	30%			88.7		
Overall Noise Level, dB(A)							108		

QM1200 - Excavate and Support Utilities

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Saw, Concrete	CNP 203	1	115	5%		-5	97.0	Operated w/o other plant. Not used to remove road divider or planters Spoil removal Spoil removal
Air Compressor	CNP 002	1	102	100%		-15	87.0	
Hand Held Breaker	CNP 025	2	111	70%		-10	102.5	
Dump Truck with Grab (or CNP 145)	CNP 069	1	105	10%			95.0	
Mini Backhoe	CNP 082	1	94	20%			87.0	
Without Concrete Saw, dB(A)							103	
Concrete Saw only, dB(A)							97	
Max. Noise Level, dB(A)							103	

QM1210 - Traffic Deck ^[1]

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	
Lorry with Crane/Grab	CNP 145	1	105	60%			102.8	
Overall SWL for Daytime Activities, dB(A)							103	

QM1220 - Excavate ES Shaft

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Excavator, Mini Robot Mounted	CNP 082	1	94	50%	-20		71.0	Alternately operated with CNP 028
Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	122	50%	-20		99.0	Alternately operated with CNP 082
Concrete Burster	CNP 051	1	90	10%	-20		60.0	Not with CNP 028
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface above Decking								
Conveyor	CNP 041	1	90	20%			83.0	with CNP 082 and 028
Lorry	CNP 142	2	105	20%			101.0	with CNP 082 and 028
Welder/Generator, Portable	CNP 107	1	99	40%		-10	85.0	Not with CNP 082 and 028
Crane, mobile #	BS C7-114	1	101	70%			99.5	Week 1 - 4 only
Electric Winches (Muck Hoist and Derrick)	CNP 262	2	95	70%		-10	86.5	Week 5 onwards
Operation with CNP 082							101	
Operation with CNP 028							103	
Max. Noise Level, dB(A)							103	

QM1260 - Construction ES Shaft

PME	TM Ref. /other Ref.	No. of Items	SWL/ Item dB(A)	On-time %	Correction for Underground Works	Correction for Proposed Mitigation Measures	Overall SWL for Individual Stage	Remarks
- Under Decking								
Poker, Vibratory, Hand-held	CNP 170	6	113	15%	-20		92.5	
Water Pump, Submersible (Electric)	CNP 283	1	85	100%	-20		65.0	
Ventilation Fan ^[2]	CNP 241	1	108	100%	-20		88.0	
- At Surface								
Air Compressor	CNP 002	1	102	100%		-15	87.0	only with CNP 170
Concrete Lorry Mixer #	BS C6-23	1	100	5%			87.0	only with CNP 170
Concrete Pump	CNP 047	1	109	15%		-15	85.8	only with CNP 170
Crane, mobile #	BS C7-114	1	101	10%			91.0	Not with CNP 170
Poker, Vibratory, Hand-held #	BS C6-20	3	102	15%		-10	88.5	
Overall with CNP 170							97	
Overall without CNP 170							94	
Max Noise Level, dB(A)							97	

Notes:

^[1] PME might operate in restricted hours, and Contractor is required to apply CNP separately.

^[2] If exhaust of ventilation fan is required above ground, it shall be located away from the existing residential building and facing towards the Kowloon Park (transient use). If required, silencer will be provided.

(#) Quieter Powered Mechanical Equipment

Ref 1 - SWL for Rock Drill is made reference to "Modifications to MTRC Tsim Sha Tsui Station" Variation of Environmental Permit (EP-113/2001/C)