

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: WSH2 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW1	50	-42.0	Noise Barrier	-10	3	42	50	Yes
	Group B: Note (4)	Welding set	1	78	78		50	-42.0			3	39	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		50	-42.0			3	50	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		50	-42.0	Noise Barrier	-10	3	46	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	50	-42.0	Noise Barrier	-10	3	42	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		50	-42.0			3	50	50	Yes
	Group C: Note (4)	Welding set	1	78	78		50	-42.0			3	39	50	Yes

Noise Sensitive Receiver: STTNV1 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW1	41	-40.3	Noise Barrier	-10	3	44	50	Yes
	Group B: Note (4)	Welding set	1	78	78		41	-40.3			3	41	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		41	-40.3	Noise Barrier	-10	3	42	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		41	-40.3	Noise Barrier	-10	3	48	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	41	-40.3	Noise Barrier	-10	3	44	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		41	-40.3	Noise Barrier	-10	3	42	50	Yes
	Group C: Note (4)	Welding set	1	78	78		41	-40.3			3	41	50	Yes

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: STTNV2 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	40	-40.0	Noise Barrier	-10	3	44	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		40	-40.0			3	41	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		40	-40.0	Noise Barrier	-10	3	42	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		40	-40.0	Noise Barrier	-10	3	48	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	55	-42.8	Noise Barrier	-10	3	41	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		55	-42.8			3	49	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		55	-42.8			3	38	50	Yes		

Noise Sensitive Receiver: STTNV5 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	50	-42.0	Noise Barrier	-10	3	42	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		50	-42.0			3	39	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		50	-42.0			3	50	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		50	-42.0	Noise Barrier	-10	3	46	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	51	-42.2	Noise Barrier	-10	3	42	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		51	-42.2			3	50	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		51	-42.2			3	39	50	Yes		

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: STW2 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	37	-39.4	Noise Barrier	-10	3	45	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		37	-39.4			3	42	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		37	-39.4	Noise Barrier	-10	3	43	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		37	-39.4	Noise Barrier	-10	3	49	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	55	-42.8	Noise Barrier	-10	3	41	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		55	-42.8			3	49	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		55	-42.8			3	38	50	Yes		

Noise Sensitive Receiver: STW6 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	65	-44.3			3	50	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		65	-44.3			3	37	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		65	-44.3			3	48	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		65	-44.3	Noise Barrier	-10	3	44	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	88	-46.9			3	47	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		88	-46.9			3	45	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		88	-46.9			3	34	50	Yes		

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: KTV2 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	120	-49.6			3	44	50	Yes
	Group B: Note (4)	Welding set	1	78	78		120	-49.6			3	31	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		120	-49.6			3	42	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		120	-49.6			3	48	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	60	-43.6			3	50	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89	60	-43.6			3	48	50	Yes	
	Group C: Note (4)	Welding set	1	78	78	60	-43.6			3	37	50	Yes	

Noise Sensitive Receiver: MWG1 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW2	223	-55.0			3	39	50	Yes
	Group B: Note (4)	Welding set	1	78	78		223	-55.0			3	26	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		223	-55.0			3	37	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		223	-55.0			3	43	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	153	-51.7			3	42	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89	153	-51.7			3	40	50	Yes	
	Group C: Note (4)	Welding set	1	78	78	153	-51.7			3	29	50	Yes	

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: KTV5 (Shatin Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	148	-51.4				3	43	50	Yes
	Group B: Note (4)	Welding set	1	78	78		148	-51.4				3	30	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		148	-51.4				3	41	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		148	-51.4				3	47	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	74	-45.4				3	49	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		74	-45.4				3	47	50	Yes
	Group C: Note (4)	Welding set	1	78	78		74	-45.4				3	36	50	Yes

Noise Sensitive Receiver: HMKR1 (Shatin Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	52	-42.3	Noise Barrier	-10		3	42	50	Yes
	Group B: Note (4)	Welding set	1	78	78		52	-42.3				3	39	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		52	-42.3				3	50	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		52	-42.3				3	46	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	137	-50.7				3	43	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		137	-50.7				3	41	50	Yes
	Group C: Note (4)	Welding set	1	78	78		137	-50.7				3	30	50	Yes

## Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)

Noise Sensitive Receiver: WWG5 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	21	-34.4	Noise Barrier	-10	3	50	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		15	-31.5			3	49	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		15	-31.5	Noise Barrier	-10	3	50	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		30	-37.5	Noise Barrier	-10	3	50	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	24	-35.6	Noise Barrier	-10	3	48	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		24	-35.6	Noise Barrier	-10	3	46	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		24	-35.6			3	45	50	Yes		

\* Minimum separation distances of 21 m and 30 m should be maintained for mobile crane and aerial work platform respectively.

Noise Sensitive Receiver: WWG8 (Shatin Side)

ASR		B														
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	21	-34.4	Noise Barrier	-10	3	50	50	Yes		
	Group B: Note (4)	Welding set	1	78	78		15	-31.5			3	49	50	Yes		
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		15	-31.5	Noise Barrier	-10	3	50	50	Yes		
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		30	-37.5	Noise Barrier	-10	3	50	50	Yes		
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	24	-35.6	Noise Barrier	-10	3	48	50	Yes		
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		24	-35.6	Noise Barrier	-10	3	46	50	Yes		
	Group C: Note (4)	Welding set	1	78	78		24	-35.6			3	45	50	Yes		

\* Minimum separation distances of 21 m and 30 m should be maintained for mobile crane and aerial work platform respectively.

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: JG4 (Shatin Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	44	-40.9	Noise Barrier	-10	3	43	50	Yes	
	Group B: Note (4)	Welding set	1	78	78		44	-40.9			3	40	50	Yes	
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		44	-40.9	Noise Barrier	-10	3	41	50	Yes	
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		44	-40.9	Noise Barrier	-10	3	47	50	Yes	
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	229	-55.2			3	39	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		229	-55.2			3	37	50	Yes	
	Group C: Note (4)	Welding set	1	78	78		229	-55.2			3	26	50	Yes	

Noise Sensitive Receiver: HP1 (Shatin Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	49	-41.8	Noise Barrier	-10	3	42	50	Yes	
	Group B: Note (4)	Welding set	1	78	78		49	-41.8			3	39	50	Yes	
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		49	-41.8			3	50	50	Yes	
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		49	-41.8	Noise Barrier	-10	3	46	50	Yes	
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	55	-42.8	Noise Barrier	-10	3	41	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery)	1	89	89		55	-42.8			3	49	50	Yes	
	Group C: Note (4)	Welding set	1	78	78		55	-42.8			3	38	50	Yes	

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: UC1 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	112	-49.0			3	45	50	Yes
	Group B: Note (4)	Welding set	1	78	78		112	-49.0			3	32	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		112	-49.0			3	43	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		112	-49.0			3	49	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	95	-47.6			3	46	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89	95	-47.6			3	44	50	Yes	
	Group C: Note (4)	Welding set	1	78	78	95	-47.6			3	33	50	Yes	

Noise Sensitive Receiver: KSC1 (Shatin Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures	Group A: EPD-05797	Mobile Crane	1	91	91	NW3	195	-53.8			3	40	50	Yes
	Group B: Note (4)	Welding set	1	78	78		195	-53.8			3	27	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		195	-53.8			3	38	50	Yes
	Group D: Other PME	Aerial work platform, working height ≤ 13m	1	95	95		195	-53.8			3	44	50	Yes
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	148	-51.4			3	43	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89	148	-51.4			3	41	50	Yes	
	Group C: Note (4)	Welding set	1	78	78	148	-51.4			3	30	50	Yes	
Construction of New Vehicular Cross-over Bridge at Shatin Portal	Group A: EPD-05797	Mobile Crane	1	91	91	NW4	164	-52.3			3	42	50	Yes
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103		164	-52.3	Noise Barrier	-10	3	44	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		164	-52.3			3	40	50	Yes
	Group D: Note (4)	Welding set	1	78	78		164	-52.3			3	29	50	Yes



**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: KATC 1 (Shatin Side)

ASR	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zone	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance		
Work Zone is located beyond 300m from the NSR																
Construction of Noise Barrier Structures																
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	286	-57.1				3	37	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		286	-57.1					3	35	50	Yes
	Group C: Note (4)	Welding set	1	78	78		286	-57.1					3	24	50	Yes
Construction of New Vehicular Cross-over Bridge at Shatin Portal	Group A: EPD-05797	Mobile Crane	1	91	91	NW4	207	-54.3				3	40	50	Yes	
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103		207	-54.3	Noise Barrier	-10		3	42	50	Yes	
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		207	-54.3				3	38	50	Yes	
	Group D: Note (4)	Welding set	1	78	78		207	-54.3				3	27	50	Yes	
Construction of New Middle Third Tunnel	EIA Ref 2	Tunnel Boring Machine	1	88	88	Zone 6a (Note 5)	391	-59.8	Inside Tunnel	-10		3	21			
	CNP 041	Conveyor belt	1	90	90		391	-59.8	Noise Enclosure	-15		3	18			
	CNP 262	Winch (electric)	1	95	95		391	-59.8	Movable Noise Barrier	-5		3	33			
	EPD-09720	Roller, vibratory	2	94	97		391	-59.8	Movable Noise Barrier	-5		3	35			
	EPD-09366	Loader, wheeled	1	100	100		391	-59.8	Movable Noise Barrier	-5		3	38			
	OCUPME-016	Welder/Generator, portable	3	100	105		391	-59.8	Movable Noise Barrier	-10		3	38			
	CNP 283	Water pump, submersible (electric)	2	85	88		391	-59.8				3	31			
	CNP 021	Bar bender and cutter (electric)	2	90	93		391	-59.8	Movable Noise Barrier	-10		3	26			
	OCUPME-020	Power pack (diesel)	2	100	103		391	-59.8	Movable Noise Barrier	-10		3	36			
	OCUPME-002	Air blower	5	95	102		391	-59.8	Movable Noise Barrier	-10		3	35			
	OCUPME-040	Aerial work platform, working height ≤ 13m	3	95	100		391	-59.8	Movable Noise Barrier	-5		3	38			
	CNP 241	Ventilation fan (at Shatin Side only)	2	108	111		391	-59.8	Noise Enclosure	-15		3	39			
	CNP 141	Multi-service vehicle	1	112	112		391	-59.8	Purpose-built barrier	-10		3	45			
	EPD-03347	Generator	2	93	96		391	-59.8				3	39			
	OCUPME-014	Grout Mixer	2	90	93		391	-59.8				3	36			
	EPD-09710	Air Compressor	2	94	97		391	-59.8				3	40			
EPD-10780	Excavator, wheeled/tracked	1	97	97	391	-59.8	Movable Noise Barrier	-5		3	35					
OCUPME-031	Water jetting unit (diesel), standard	1	107	107	391	-59.8	Movable Noise Barrier	-10		3	40					
Total CNL:												50	50	Yes		
Enlargement of Existing Kowloon bound Tunnel	CNP 241	Ventilation fan (at Shatin Side only)	2	108	111	Zone 6b (Note 5)	378	-59.5	Noise Enclosure	-15		3	39			
Total CNL:												39	50	Yes		
Rehabilitation of Existing Shatin Bound Tunnel	EPD-10780	Excavator, wheeled/tracked	1	97	97	Work Zone 6c Note (5)	428	-60.6				3	39			
	CNP 241	Ventilation fan (at Shatin Side only)	2	108	111		428	-60.6	Noise Enclosure	-15		3	38			
	OCUPME-028	Saw, wire	1	101	101		428	-60.6				3	43			
	CNP 064	Drill, percussive, hand-held (electric)	1	103	103		428	-60.6	Movable Noise Barrier	-5		3	40			
	EPD-09366	Loader, wheeled	1	100	100		428	-60.6				3	42			
	OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	105	105		428	-60.6	Movable Noise Barrier	-5		3	42			
	OCUPME-040	Aerial work platform, working height ≤ 13m	1	95	95		428	-60.6				3	37			
	EPD-03347	Generator	1	93	93		428	-60.6				3	35			
EPD-09710	Air Compressor	1	94	94	428	-60.6				3	36					
Total CNL:												50	50	Yes		

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: PHD1 (Kowloon Side)  
ASR B

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zones	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	No barrier / enclosure will be provided at Kowloon side														
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	78	-45.8			3	48	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		78	-45.8			3	46	50	Yes	
	Group C: Note (4)	Welding set	1	78	78		78	-45.8			3	35	50	Yes	
Construction of New Middle Third Tunnel	The tunnel will be constructed by TBM from Shatin sde, hence, airborne noise impact from the construction of new middle third tunnel will not affect the NSRs at Kowloon side														
Enlargement of Existing Kowloon bound Tunnel	CNP 028	Breaker, excavator mounted (hydraulic)	4	122	128	Work Zone 6b Note (5)	162	-52.2	Acoustic tunnel door /enclosure	-30	3	49			
	CNP 081	Excavator/loader, wheeled/tracked	4	112	118		162	-52.2				39			
	CNP 030	Bulldozer	2	115	118		162	-52.2				39			
												Total CNL:	50	50	Yes
Rehabilitation of Existing Shatin Bound Tunnel	EPD-10780	Excavator/loader, wheeled/tracked	1	97	97	Work Zone 6c Note (5)	122	-49.7	Acoustic tunnel door /enclosure	-15	3	35			
	OCUPME-028	Saw, wire	1	101	101		122	-49.7				39			
	CNP 064	Drill, percussive, hand-held (electric)	1	103	103		122	-49.7				41			
	EPD-09366	Loader, wheeled	1	100	100		122	-49.7				38			
	OCUPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	105	105		122	-49.7				43			
	OCUPME-040	Aerial work platform, working height ≤ 13m	1	95	95		122	-49.7				33			
	EPD-03347	Generator	1	93	93		122	-49.7				31			
EPD-09710	Air Compressor	1	94	94	122	-49.7	32								
												Total CNL:	48	50	Yes
Construction of New Vehicular Bridge next to Existing K7A Vehicular Bridge	Group A: EPD-05797	Mobile Crane	1	91	91	NWS	115	-49.2	Noise Barrier	-10	3	45	50	Yes	
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103		115	-49.2				47	50	Yes	
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		115	-49.2				43	50	Yes	
	Group D: Note (4)	Welding set	1	78	78		115	-49.2				32	50	Yes	

**Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)**

Noise Sensitive Receiver: EH1 (Kowloon Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zones	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	No barrier / enclosure will be provided at Kowloon side														
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	100	-48.0			3	46	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		100	-48.0				3	44	50	Yes
	Group C: Note (4)	Welding set	1	78	78		100	-48.0				3	33	50	Yes
Construction of New Middle Third Tunnel	The tunnel will be constructed by TBM from Shatin sde, hence, airborne noise impact from the construction of new middle third tunnel will not affect the NSRs at Kowloon side														
Enlargement of Existing Kowloon bound Tunnel	Work Zone is located beyond 300m from the NSR														
Rehabilitation of Existing Shatin Bound Tunnel	Work Zone is located beyond 300m from the NSR														
Construction of New Vehicular Bridge next to Existing K7A Vehicular Bridge	Group A: EPD-05797	Mobile Crane	1	91	91	NWS	71	-45.0	Acoustic Shed	-15	3	49	50	Yes	
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103		71	-45.0				3	46	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		71	-45.0				3	47	50	Yes
	Group D: Note (4)	Welding set	1	78	78		71	-45.0				3	36	50	Yes

Noise Sensitive Receiver: MC1 (Kowloon Side)

ASR															
Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zones	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance	
Construction of Noise Barrier Structures	No barrier / enclosure will be provided at Kowloon side														
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	138	-50.8			3	43	50	Yes	
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		138	-50.8				3	41	50	Yes
	Group C: Note (4)	Welding set	1	78	78		138	-50.8				3	30	50	Yes
Construction of New Middle Third Tunnel	The tunnel will be constructed by TBM from Shatin sde, hence, airborne noise impact from the construction of new middle third tunnel will not affect the NSRs at Kowloon side														
Enlargement of Existing Kowloon bound Tunnel	Work Zone is located beyond 300m from the NSR														
Rehabilitation of Existing Shatin Bound Tunnel	Work Zone is located beyond 300m from the NSR														
Construction of New Vehicular Bridge next to Existing K7A Vehicular Bridge	Group A: EPD-05797	Mobile Crane	1	91	91	NWS	139	-50.9	Acoustic Shed	-15	3	43	50	Yes	
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103		139	-50.9				3	40	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		139	-50.9				3	41	50	Yes
	Group D: Note (4)	Welding set	1	78	78		139	-50.9				3	30	50	Yes

## Appendix 4.11 Calculation of Construction Noise Levels during Restricted Hours (Mitigated Scenario)

Noise Sensitive Receiver: PH2 (Kowloon Side)

Activity	Reference Code (1)	PME (2)	No. of plant item	Unit SWL, dB(A)	SWL, dB(A)	Work Zones	Distance of Work Zone to NSRs, m (3)	Distance Correction, dB(A)	Mitigation Measures (6)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Noise Criterion for Night-time Period (2300-0700), dB(A)	Compliance
Construction of Noise Barrier Structures			No barrier / enclosure will be provided at Kowloon side											
Demolition and Erection of Sign Gantries	Group A: EPD-05797	Mobile Crane	1	91	91	Nearest Sign Gantry	214	-54.6			3	39	50	Yes
	Group B: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		214	-54.6			3	37	50	Yes
	Group C: Note (4)	Welding set	1	78	78		214	-54.6			3	26	50	Yes
Construction of New Middle Third Tunnel			The tunnel will be constructed by TBM from Shatin sde, hence, airborne noise impact from the construction of new middle third tunnel will not affect the NSRs at Kowloon side											
Enlargement of Existing Kowloon bound Tunnel			Work Zone is located beyond 300m from the NSR											
Rehabilitation of Existing Shatin Bound Tunnel			Work Zone is located beyond 300m from the NSR											
Construction of New Vehicular Bridge next to Existing K7A Vehicular Bridge	Group A: EPD-05797	Mobile Crane	1	91	91		172	-52.7			3	41	50	Yes
	Group B: CNP 064	Drill, percussive, hand-held (electric)	1	103	103	NWS	172	-52.7	Acoustic Shed	-15	3	38	50	Yes
	Group C: Other PME	Electric Wrench (Drill, hand-held (battery))	1	89	89		172	-52.7			3	39	50	Yes
	Group D: Note (4)	Welding set	1	78	78		172	-52.7			3	28	50	Yes

Note :

(1) Reference is made to the PME listed in the GW-TM or the QPME or "other commonly used PME" listed in EPD web pages

(2) PME in separated groups will not be operated at the same time

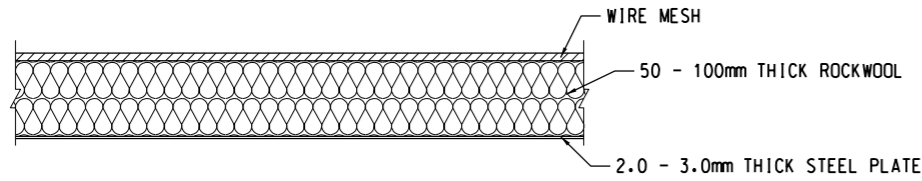
(3) For conservative approach, the shortest distance between the work zone and the NSR is assumed for noise assessment.

(4) The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002)

(5) For work zones inside tunnel, distance between tunnel portal and NSR is adopted for the noise assessment.

(6) Purpose-built barrier should be used. For the design of noise barrier, guidelines from EPD web pages ([https://www.epd.gov.hk/epd/misc/construction\\_noise/contents/index.php/en/road-works/item/74-mitigation-measures/157-construction-noise-barrier.html](https://www.epd.gov.hk/epd/misc/construction_noise/contents/index.php/en/road-works/item/74-mitigation-measures/157-construction-noise-barrier.html)) should be followed.

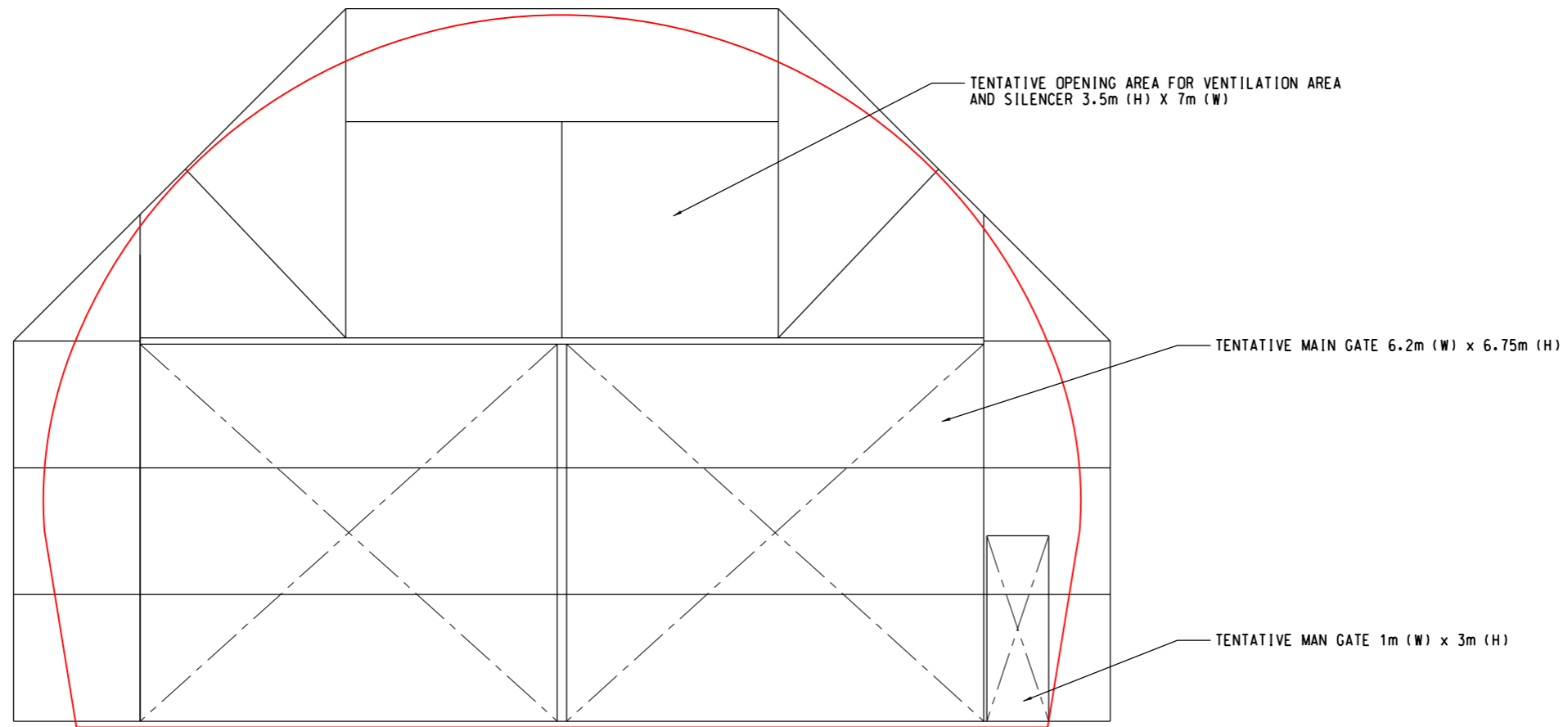
(7) For each type of construction activity, only one group of the PMEs will be concurrently in use at the site.



TYPICAL NOISE PANEL  
N.T.S.

**NOTES:**

1. THE DRAWING IS TENTATIVE ONLY AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL DESIGN OF THE ACOUSTIC DOOR IN ACCORDANCE WITH THE STATUTORY REQUIREMENT (FOR STRUCTURAL DESIGN) AND ACTUAL SITE CONDITION DURING CONSTRUCTION PHASE.
2. TYPICAL NOISE PANEL FOR ACOUSTIC DOOR COMPRISES OF 2.0mm - 3.0mm THICK STEEL PLATE LINED WITH ACOUSTIC ABSORPTION MATERIAL (E.G ROCKWOOL) INTERNALLY.



SCHMATIC DRAWING OF ACOUSTIC DOOR INSTALLED AT PORTAL AT KOWLOON BOUND TUNNEL AND SHATIN BOUND TUNNEL  
FRONT VIEW

SCALE 1 : 100

IMPROVEMENT OF  
LION ROCK TUNNEL -  
INVESTIGATION



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ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE DIMENSION UNIT

A3 AS SHOWN

KEY PLAN

PROJECT NO. AGREEMENT NO.

60604728 CE 48/2018(HY)

SHEET TITLE

SCHMATIC DRAWING OF  
ACOUSTIC DOOR

SHEET NUMBER

60604728/SK7140

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