Construction Plant Inventory for the Proposed Project (Mitigated Scenario)

PME		TM or Other Reference	SWL, dB(A)	No. of PME	% on Time	On-Time % Correction, dB(A)	Noise Barrier Correction, dB(A)	Total SWL, dB(A)		Highest SWL of Each Construction Activity, dB(A)
Activity 1 - Site Formation, Excavation and Filling										
Excavation and Filling	Air compressor, air flow > 10 m^3/min and <= 30 m^3/min	CNP 002	102	1	100%	0	0	102	**107**	**118**
	Excavator / loader, wheeled / tracked	EPD-02383 [2]	92	1	75%	-1.2	0	91		
	Generator, Standard	EPD-00668 [2]	79	1	100%	0	-5	74		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	2	50%	-3.0	0	105		
Breaking excavated hard/ oversize materials	Breaker, hand-held, mass >= 20 kg and <= 35 kg	CNP 025	111	1	50%	-3.0	-5	103	**103**	
	Excavator / loader, wheeled / tracked	EPD-02383 [2]	92	2	75%	-1.2	0	94		
Ground Compression	Bulldozer	CNP 030	115	2	100%	0	0	118	**118**	
	Roller, vibratory	EPD-00509 [2]	95	2	100%	0	0	98		
Activity 2 - Foundation										
General Foundation Construction	Air compressor, air flow > 30 m^3/min	CNP 003	104	1	75%	-1.2	0	103	**112**	**114**
	Bar bender and cutter (electric)	CNP 021	90	3	75%	-1.2	0	94		
	Generator	EPD-00668 [2]	79	2	100%	0	-5	77		
	Drill / grinder, hand-held (electric)	Other [1]	89	2	50%	-3.0	0	89		
	Saw, circular, wood	CNP 201	108	2	75%	-1.2	-5	105		
	Water pump, submersible (electric)	CNP 283	85	3	75%	-1.2	0	89		
	Excavator / loader, wheeled / tracked	EPD-02383 [2]	92	1	75%	-1.2	0	91		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	1	50%	-3.0	0	102		
	Lorry	CNP 141	112	1	50%	-3.0	0	109		
	Crane, mobile / barge mounted (diesel)	EPD-02602 [2]	102	1	75%	-1.2	0	101		
Piling Works	Generator	EPD-00668 [2]	79	1	100%	0	-5	74	**110**	
	Piling, vibrating hammer	CNP 172	115	1	100%	0	-5	110		
Concreting Works	Concrete lorry mixer	CNP 044	109	1	75%	-1.2	0	108	**114**	
	Concrete pump, stationary / lorry mounted	CNP 047	109	1	75%	-1.2	0	108		
	Generator	EPD-00668 [2]	79	1	100%	0	-5	74		
	Poker, vibratory, hand-held	Other [1]	102	1	100%	0.0	0	102		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	1	50%	-3.0	0	102		
	Lorry, gross vehicle weight > 38 tonne	Other [1]	112	1	50%	-3.0	0	109		
Activity 3 - Main Building Construction										
General construction works	Air compressor, air flow > 10 m^3/min and <= 30 m^3/min	CNP 002	102	1	75%	-1.2	0	101	**113**	**114**
	Bar bender and cutter (electric)	CNP 021	90	3	100%	0.0	0	95		
	Crane, mobile / barge mounted (diesel)	EPD-02602 [2]	102	1	75%	-1.2	0	101		
	Crane, tower (electric)	CNP 049	95	1	100%	0.0	0	95		
	Drill / grinder, hand-held (electric)	Other [1]	89	1	75%	-1.2	0	88		
	Generator	EPD-00668 [2]	79	1	100%	0	-5	74		
	Breaker, hand-held, mass >= 20 kg and <= 35 kg	CNP 025	111	2	50%	-3.0	-5	106		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	1	50%	-3.0	0	102		
	Saw, circular, wood	CNP 201	108	3	70%	-1.5	0	111		
Concreting works	Concrete lorry mixer	CNP 044	109	1	75%	-1.2	0	108	**114**	
	Concrete pump, stationary / lorry mounted	CNP 047	109	1	75%	-1.2	0	108		
	Generator	EPD-00668 [2]	79	1	100%	0	-5	74		
	Poker, vibratory, hand-held	Other [1]	102	1	100%	0.0	0	102		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	1	50%	-3.0	0	102		
	Lorry, gross vehicle weight > 38 tonne	Other [1]	112	1	50%	-3.0	0	109		
Finishing	Drill, percussive, hand-held (electric)	CNP 064	103	3	50%	-3.0	0	105	**114**	
	Jig-saw, hand-held wood (electric)	Other [1]	99	1	50%	-3.0	0	96		
	Concrete corer	CNP 042	117	2	50%	-3.0	-5	112		
	Lorry, with crane / grab, 5.5 tonne < gross vehicle weight < 38 tonne	Other [1]	105	2	50%	-3.0	0	105		

Note :
[1] Reference to "Sound Power Levels of other commonly used PME"
[2] Reference to list of Quality Powered Mechanical Equipment Label (valid), as of 30th Jan 2015

Construction Plant Inventory for THEi New Campus Development

PME		TM or Other Reference	SWL, dB(A)	No. of PME	% on Time	On-Time % Correction, dB(A)	Total SWL, dB(A)		Highest SWL of Each Construction Activity, dB(A)
Activity 3 - Main Building Construction									
Interior Fitting Out and Users Moving-in	Drill, percussive, hand-held (electric)	CNP 064	103	3	50%	-3.0	105	**118**	**118**
	Jig-saw, hand-held wood (electric)	Other [1]	99	1	50%	-3.0	96		
	Concrete corer	CNP 042	117	2	50%	-3.0	117		
	Lorry, with crane, 5.5 tonne < gross vehicle weight < 38 tonne	Other [1]	105	2	50%	-3.0	105		
	Dump truck, 5.5 tonne < gross vehicle weight =< 38 tonne	Other [1]	105	1	50%	-3.0	102		

Note :
[1] Reference to "Sound Power Levels of other commonly used PME"

Calculation of Construction Noise Level due to the Proposed Project (Mitigated Scenario)

NAP	Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m	Dist. (Site Boundary to Notional Point) (B), m	Horz. Dist. (=A+B), m	Dist. Corr., dB(A)	Façade Corr., dB(A)	Barrier Corr., dB(A) [1]	CNL, dB(A)
NAP 101	Site Formation, Excavation and Filling	118	300	36	336	-59	3	0	62
NAP 201	Site Formation, Excavation and Filling	118	145	19	164	-52	3	0	69
NAP 202	Site Formation, Excavation and Filling	118	248	2	250	-56	3	-10	55
NAP 301	Site Formation, Excavation and Filling	118	160	19	179	-53	3	-10	58
NAP 401	Site Formation, Excavation and Filling	118	345	17	362	-59	3	0	62
NAP 501	Site Formation, Excavation and Filling	118	340	19	359	-59	3	0	62
NAP 601	Site Formation, Excavation and Filling	118	375	17	392	-60	3	0	61
NAP 701	Site Formation, Excavation and Filling	118	380	17	397	-60	3	0	61
NAP 801	Site Formation, Excavation and Filling	118	200	17	217	-55	3	0	66
NAP 802	Site Formation, Excavation and Filling	118	260	17	277	-57	3	-10	54
NAP 101	Foundation	114	300	36	336	-59	3	0	58
NAP 201	Foundation	114	145	19	164	-52	3	0	65
NAP 202	Foundation	114	248	19	267	-57	3	-10	50
NAP 301	Foundation	114	160	19	179	-53	3	-10	54
NAP 401	Foundation	114	345	17	362	-59	3	0	58
NAP 501	Foundation	114	340	19	359	-59	3	0	58
NAP 601	Foundation	114	375	17	392	-60	3	0	57
NAP 701	Foundation	114	380	17	397	-60	3	0	57
NAP 801	Foundation	114	200	17	217	-55	3	0	62
NAP 802	Foundation	114	260	17	277	-57	3	-10	50
NAP 101	Main Building Construction	114	300	36	336	-59	3	0	58
NAP 201	Main Building Construction	114	145	19	164	-52	3	0	65
NAP 202	Main Building Construction	114	248	19	267	-57	3	-10	50
NAP 301	Main Building Construction	114	160	19	179	-53	3	-10	54
NAP 401	Main Building Construction	114	345	17	362	-59	3	0	58
NAP 501	Main Building Construction	114	340	19	359	-59	3	0	58
NAP 601	Main Building Construction	114	375	17	392	-60	3	0	57
NAP 701	Main Building Construction	114	380	17	397	-60	3	0	57
NAP 801	Main Building Construction	114	200	17	217	-55	3	0	62
NAP 802	Main Building Construction	114	260	17	277	-57	3	-10	50

[1] Attenuation of -10 dB(A) is applied to the NSR(s) that does not have a direct line of sight of the Project site.

Chai Wan Government Complex and Vehicle Depot
Environmental Impact Assessment
Appendix 5.8 Detailed Calculation of Construction Noise Impact Assessment and Construction Plant Inventory (Mitigated Scenario)

Calculation of Construction Noise Level due to Concurrent Project - THEi New Campus Development (Mitigated Scenario)

NAP	Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m	Dist. (Site Boundary to Notional Point) (B), m	Horz. Dist. (=A+B), m	Dist. Corr., dB(A)	Façade Corr., dB(A)	Barrier Corr., dB(A) [1]	CNL, dB(A)
NAP 101	Interior Fitting Out and Users Moving-in	118	505	23	528	-62	3	0	59
NAP 201	Interior Fitting Out and Users Moving-in	118	179	14	193	-54	3	0	67
NAP 202	Interior Fitting Out and Users Moving-in	118	213	8	221	-55	3	-10	56
NAP 301	Interior Fitting Out and Users Moving-in	118	240	14	254	-56	3	0	65
NAP 401	Interior Fitting Out and Users Moving-in	118	104	9	113	-49	3	0	72
NAP 501	Interior Fitting Out and Users Moving-in	118	121	9	130	-50	3	0	71
NAP 601	Interior Fitting Out and Users Moving-in	118	210	8	218	-55	3	0	66
NAP 701	Interior Fitting Out and Users Moving-in	118	86	15	101	-48	3	0	73

[1] Attenuation of -10 dB(A) is applied to the NSR(s) that does not have a direct line of sight of the Project site.

Predicted Monthly Construction Noise Level at NSRs due to the Proposed Project (Mitigated Scenario)

Project	Activities/ Month/Year	2016						2017												2018										
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
Chai Wan Vehicle Depot	Site formation, Excavation and Filling	■	■	■	■																									
	Foundation					■	■	■	■	■	■	■	■																	
	Main Building Construction													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
THEi New Campus	Interior Fitting Out and Users Moving-in	■	■																											

Construction Programme with Predicted Noise Level	NSR		Monthly Construction Noise Level at Each Noise Assessment Point (dB(A)) (Overall)																														Max	Min
The Project (CNL)	NAP 101	Heng Fa Chuen Block 50	62	62	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	62	58
	NAP 201	HK IVE (Chai Wan) - Academic Block	**69**	69	69	69	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	69	65
	NAP 202	HK IVE (Chai Wan) - Academic Block	55	55	55	55	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	55	50
	NAP 301	Knight Court Flat C & D	58	58	58	58	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	58	54
	NAP 401	Tsui Shou House, Tsui Wan Estate	62	62	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	62	58
	NAP 501	Endeavourers Chan Cheng Kit Wan Kindergarten	62	62	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	62	58
	NAP 601	Tsui Fuk House, Tsui Wan Estate	61	61	61	61	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	61	57
	NAP 701	Tsui Hong House, Tsui Wan Estate	61	61	61	61	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	61	57
	NAP 801	Proposed THEi New Campus in Chai Wan			66	66	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	66	62
	NAP 802	Proposed THEi New Campus in Chai Wan			54	54	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	54	50
THEi New Campus (CNL)	NAP 101	Heng Fa Chuen Block 50	59	59																												
	NAP 201	HK IVE (Chai Wan) - Academic Block	**67**	67																												
	NAP 202	HK IVE (Chai Wan) - Academic Block	56	56																												
	NAP 301	Knight Court Flat C & D	65	65																												
	NAP 401	Tsui Shou House, Tsui Wan Estate	72	72																												
	NAP 501	Endeavourers Chan Cheng Kit Wan Kindergarten	71	71																												
	NAP 601	Tsui Fuk House, Tsui Wan Estate	66	66																												
	NAP 701	Tsui Hong House, Tsui Wan Estate	73	73																												
	NAP 801	Proposed THEi New Campus in Chai Wan (N/A)																														
	NAP 802	Proposed THEi New Campus in Chai Wan (N/A)																													**Max**	**Min**
Overall (CNL)	NAP 101	Heng Fa Chuen Block 50	64	64	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	64	58
	NAP 201	HK IVE (Chai Wan) - Academic Block	**71**	**71**	69	69	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	71	65
	NAP 202	HK IVE (Chai Wan) - Academic Block	58	58	55	55	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	58	50
	NAP 301	Knight Court Flat C & D	66	66	58	58	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	66	54
	NAP 401	Tsui Shou House, Tsui Wan Estate	72	72	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	72	58
	NAP 501	Endeavourers Chan Cheng Kit Wan Kindergarten	71	71	62	62	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	71	58
	NAP 601	Tsui Fuk House, Tsui Wan Estate	67	67	61	61	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	67	57
	NAP 701	Tsui Hong House, Tsui Wan Estate	73	73	61	61	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	73	57
	NAP 801	Proposed THEi New Campus in Chai Wan			66	66	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	66	62
	NAP 802	Proposed THEi New Campus in Chai Wan			54	54	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	54	50
CNL Standard	NAP 101	Heng Fa Chuen Block 50	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75		
	NAP 201	HK IVE (Chai Wan) - Academic Block	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	
	NAP 202	HK IVE (Chai Wan) - Academic Block	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	
	NAP 301	Knight Court Flat C & D	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
	NAP 401	Tsui Shou House, Tsui Wan Estate	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
	NAP 501	Endeavourers Chan Cheng Kit Wan Kindergarten	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	
	NAP 601	Tsui Fuk House, Tsui Wan Estate	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
	NAP 701	Tsui Hong House, Tsui Wan Estate	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
	NAP 801	Proposed THEi New Campus in Chai Wan			70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	
	NAP 802	Proposed THEi New Campus in Chai Wan			70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	70	65	70	65	65	65	65	65	70	70	70	70	

Note: Noise Level(s) exceeding the construction noise criteria is / are **bolded**.

NSR 8 is a planned educational institution and no examination schedule can be obtained at the time of preparation of this study. It is assumed that the examination schedules for NSR 2 and NSR 8 are the same.