## **Appendix 4-5**

Estimated Construction Noise Levels Due to Planned RD Site

Appendix 4-5-1 Indicative Construction Programme for Planned RD Site 2018 Construction Activity M9 M10 M11 M12 M1 M2 M3 M4 M5 M6 N7 N8 N9 M10 M11 M12 M1 M2 M3 M4 M5 M6 N7 N8 N9 M10 M11 M12 M1 M2 M3 M4 M5 M6 N7 N8 N9 M10 M11 M12 M1 M2 M3 M4 M5 M6 N7 N8 N9 M10 M11 M12 Site Formation: Site clearance and preparation Site Formation, Filling and A Excavation Dump Trucks Travelling on Haul Road during Site G Formation Sub-structure (Pile Cap) F Construction of Underground Services and Utilities Construction of Underground B Services and Utilities Roadworks C Road works Foundation D Foundation Superstructure E Superstructure Concurrent Construction Activities by Work Group A+G+F B+C Duration of Concurrent

3.5

Works (no. of months)

Remark:

The above Construction Programme for Site Formation is prepared with the following assumption: Working hours = 08:00 to 18:00 hours Working days = 25 days per months

Appendix 4-5-2 Summary Table of Calculated Construction Noise Level at NSRs (Mitigated Scenario with QPMEs and Movable Noise Barriers)

NSR Label	Descriptions	Cons	truction	Noise L	evel fro	m Each	Cumul	ative	Highest Noise			
		Α	ВС		D	Е	F	G	A+G+F	B+C	Level, dB(A)	Noise Criteria, dB(A)
		Site Formation, Filling and Excavation	Construction of Underground Services and Utilities	Road works	Foundation	Superstructure	Sub-structure (Pile Cap)	Dump Trucks Travelling on Haul Road				
Existin	NSRs											
N9	Fairview Park	60	58	60	62	58	58	58	64	62	64	75
N4	Fairview Park	58	56	58	60	56	56	57	62	60	62	75
N5	Yau Mei San Tsuen	61	59	61	63	59	59	59	65	63	65	75
N12	Chuk Yuen Tsuen	73	71	73	75	71	71	65	75	75	75	75
N13	Chuk Yuen Tsuen	72	70	72	74	70	70	64	74	74	74	75
N3	Fairview Park	58	56	58	60	56	56	57	62	60	62	75
N6	Palm Springs	53	51	53	55	51	51	55	58	55	58	75
N7	Temp. house at Yau Mei San Tsuen	57	55	57	59	55	55	57	61	59	61	75
N14	Yau Mei San Tsuen	59	57	59	61	57	57	58	62	61	62	75
N_ch	Christian Ministry Institute	58	56	58	60	56	56	57	62	60	62	70 (65 during examination)
N8	Royal Palms	55	53	55	57	53	53	56	60	57	60	75
N_sch	Hong Chi Morninglight School Yuen Long	50	48	50	52	48	48	54	56	52	56	70 (65 during examination)
N4c	Fairview Park	59	57	59	61	57	57	58	63	61	63	75
Planne	d NSRs											
V1P	Village Zone Development	71	69	71	73	69	69	64	74	73	74	75

Appendix 4-5-3 Plant Inventory and Calculated SWLs for Construction Noise Impact Assessment (with QPMEs, Movable Noise Barriers)

				PMEs Inv	entory - M	/litigate	d (with Q	PMEs ar	nd Movable Noise Barrie	rs)			
Construction Activity	s	ub. Work Group	Powered Mechanical Equipment	Reference	SWL per unit	Qty	Total, SWL	Total SWL, dB(A)	At-source Noise Mitigation Measure	Noise Barrier Effect **	Total SWL (Mitigated )	Total SWL, dB(A)	Highest SWL of Each Construction Activity, dB(A)
(A) Site Formation, Filling and Excavation	A1	Excavation and Filling	Air Compressor	CNP001	100	2	103		Movable noise barrier Movable noise barrier and Installation of commercially made	-10 -10			
			Breaker, mini-robot mounted  Excavator, wheeled/tracked	EPD * KATO model HD820V (EPD-01233)	115 99	3	104	117	sound proof hammer bracket # & ## Movable noise barrier	-5	99	112	
			Generator, super silenced  Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	CNP103 EPD *	95 105	4	100		Movable noise barrier	-10	90 111		112
	A2	Ground Compression	Roller, vibratory	SAKAI model SW250-1 (EPD-00509) Komatsu modelled D21A	95	3	100	108			100	108	
(B)	B1	Earthwork	Bulldozer	8	102	3	107		Movable noise barrier		107		
Construction of Underground Services and Utilities			Breaker, mini-robot mounted	EPD *	115	1	115		and Installation of commercially made sound proof hammer bracket # & ##	-10	105		
			Dump Truck (5.5 tonne <	EPD *	105	2	108	116			108	110	110
			Excavator, mini-robot mounted		94	2	97		Movable noise barrier	-5			
	B2	Utilities laying	Air Compressor Generator, super silenced Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	CNP001 CNP103 EPD *	100 95 105	2 2		1	Movable noise barrier Movable noise barrier	-10 -10	93 88 108	108	
			Water Pump, Submersible(electric)	CNP283	85	2	88		Movable noise barrier	-10	78		
	В3	Ground reinstatement	Concrete Lorry Mixer	CNP044  Dynapac model LT700	109	2	112		Movable noise barrier  Movable noise barrier	-10 -10		100 105 95	
			Power rammer (petrol) Poker, vibratory, hand-held (electric)	(EPD-00536) EPD * SAKAI model SW250-1	107	2	105	115	Movable noise barrier	-10	95		
			Roller, vibratory	(EPD-00509)	95	2	98				98		
(C) Road Works	C1	Earthwork	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD*	105	3	110	110			110	110	
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	2	102		Movable noise barrier	-5	97	1	
	C2	Concreting Works	Concrete Lorry Mixer  Generator, super silenced	CNP044 CNP103	109 95	3	114	114	Movable noise barrier  Movable noise barrier		104 90	106	
			Poker, vibratory, hand-held (electric)	EPD *	102	2			Movable noise barrier	-10 -10			112
	C3	Road Finishing	Air Compressor  Asphalt Paver	CNP001 VOLVO model. No.	100	2			Movable noise barrier	-10	93 107		
			Generator, super silenced Lorry (5.5 tonne < Gross	ABG5770 (EPD-01226) CNP103 EPD *	104 95 105	2	98	114	Movable noise barrier	-10		112	
			vehicle weight <= 38 tonne)  Power rammer (petrol)	Dynapac model LT700 (EPD-00536) HITACHI model CP220-	107	2	110		Movable noise barrier	-10			
(D) Foundation	D1	General foundation construction		3 (EPD-01183) CNP001	100	5	107		Movable noise barrier	-10	97	:	
i ouridation		CONSTRUCTION	Bar bender and cutter (electric)  Mobile Crane	CNP021 Hitachi Sumitomo SCX700, 132kW	90	3			Movable noise barrier  Movable noise barrier	-10 -5			
			Generator, super silenced Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	CNP103 EPD *	95 105	3	110	118	Movable noise barrier	-10	110	112	
			Drill/grinder, hand-held (electric)	CNP065  KATO model HD820V	98	3	104		Movable noise barrier  Movable noise barrier	-10 -5			
			Excavator, wheeled/tracked Saw, circular, wood	(EPD-01233) CNP201	99 108	5			Movable noise barrier	-10			114
			Water pump, submersible (electric)	CNP283	85	4	91		Movable noise barrier	-10	81		

				PMEs Inv	PMEs Inventory - Mitigated (with QPMEs and Movable Noise Barrie					s)			
Construction Activity	Sub. Work Group		Powered Mechanical Equipment	Reference	SWL per unit	Qty	Total, SWL	Total SWL, dB(A)	At-source Noise Mitigation Measure	Noise Barrier Effect **	Total SWL (Mitigated	Total SWL, dB(A)	Highest SWL of Each Construction Activity, dB(A)
	D2	Piling works	Generator, super silenced	CNP103	95	4	101	1	Movable noise barrier	-10	91		
			Continuous Flight Augus (CFA)		114	3	119	119	Provision of acoustic shielding	-5		114	
	D3	Concreting works	Concrete Lorry Mixer	CNP044	109	5	116		Movable noise barrier	-10	106		
			Generator, super silenced	CNP103	95	4	101	117	Movable noise barrier	-10	91	107	
			Poker, vibratory, hand-held (electric)	EPD *	102	4	108		Movable noise barrier	-10	98		
(E)	E1		Air Compressor	CNP001	100	6	108		Movable noise barrier	-10	98		
Superstructure		works	Bar bender and cutter (electric)	CNP021	90	9	100		Movable noise barrier	-10	90		
			Mobile Crane	Hitachi Sumitomo SCX700, 132kW	101	3	106	120	Movable noise barrier	-5	101	110	110
			Drill/grinder, hand-held (electric)	CNP065	98	10	108		Movable noise barrier	-10	98		
			Generator, super silenced	CNP103	95	4	101		Movable noise barrier	-10			
			Saw, circular, wood	CNP201	108	12	119		Movable noise barrier	-10	109		
	E2	Concreting works	Concrete Lorry Mixer	CNP044	109	8	118	120	Movable noise barrier	-10	108		
			Concrete Pump	CNP047	109	4			Movable noise barrier	-10		110	
			Generator, super silenced Poker, vibratory, hand-held	CNP103	95	4			Movable noise barrier	-10			
			(electric)	EPD *	102	7	110		Movable noise barrier	-10	100		
(F) Sub-structure (Pile		General pile cap construction	Bar bender and cutter (electric)	CNP021	90	10	100		Movable noise barrier	-10	90		
Cap)			Generator, super silenced	CNP103	95	5	102	109	Movable noise barrier	-10	92	100	
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108			0	108		
	F2	Concreting works	Concrete Lorry Mixer	CNP044	109	3	114		Movable noise barrier	-5	109	,	
			Concrete Pump	CNP047	109	1	109	116	Movable noise barrier	-10	99	110	110
			Generator, super silenced	CNP103	95	6	103		Movable noise barrier	-10	93		
			Poker, vibratory, hand-held (electric)	EPD *	102	2	105		Movable noise barrier	-10	95		
	F3	Backfill and reinstate	-										
	F3	Dackiii and reinstate	Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	2	102	103	Movable noise barrier	-5	97	98	
			Roller, vibratory	SAKAI model SW250-1 (EPD-00509)	95	1	95		Movable noise barrier	-5	90		
(G) Dump Trucks Travelling on Haul Road During Site Formation		Dump Trucks Travelling on Haul Road	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD*	105	10	115	115			115	115	115

Note: Noise levels of the above construction plants are based on the "Technical Memorandum on Noise From Construction Work Other Than Percussive Piling" and EPD's QPMEs database (available at: http://www.epd.gov.hk/cgi-bin/npg/qpme/index.pl?lang=eng)

- ${}^{\star} \ \mathsf{EPD} \ \mathsf{website: http://www.epd.gov.hk/epd/english/application\_for\_licences/guidance/files/OtherSWLe.pdf}$
- \*\* According to EIAO Guidance Note No. 9/2010, with provision of noise barriers, a 5dB(A) noise reduction for movable plant, 10 dB(A) for stationary plant and 15 dB(A) for enclosed ones can be assumed.
- # According to "A Practical Guide for the Reduction of Noise from Construction Works" (page 11), published by HKSAR Gov. Environmental Protection Department, July 1989, excavated-mounted breaker with sound proof hammer bracket installed could achieve a noise reduction up to 10dB(A).

## According to the "Best Practice Guide for Environmental Protection on Construction Sites", page 6-9, published by Hong Kong Construction Association, January 2009, excavator-mounted breaker with sound proof hammer bracket can achieve a noise reduction of up to 10dB(A). (Doc. Available at: http://www.hkca.com.hk/front/20090306bpg.pdf)

@ The highest SWL calculated for each Construction Activity for construction noise impact assessment. Each Construction Activity has been divided into several sub. work groups based on the sequence of construction works. The respective sub-work groups of each Construction Activity will not overlap with one another.

Appendix 4-5-4 Calculation of Construction Noise Level (Mitigated Scenario with QPMEs and Movable Noise Barriers)

NSR		Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m	Dist. (Site Boundary to Notional Source) (B), m "&#</th><th>Horz. Distance (= A+B), m</th><th>Dist. Corr., dB(A)</th><th>Façade Corr., dB(A)</th><th>CNL, dB(A)</th></tr><tr><td>N9</td><td>A B</td><td>Site Formation, Filling and Excavation Construction of Underground Services and Utilities</td><td>112 110</td><td>178 178</td><td>50 50</td><td>228 228</td><td>-55.1 -55.1</td><td>3.0</td><td>60 58</td></tr><tr><td></td><td>С</td><td>Road works</td><td>112</td><td>178</td><td>50</td><td>228</td><td>-55.1</td><td>3.0</td><td>60</td></tr><tr><td></td><td>D</td><td>Foundation</td><td>114</td><td>178</td><td>50</td><td>228 228</td><td>-55.1</td><td>3.0</td><td>62</td></tr><tr><td></td><td>E F</td><td>Superstructure Sub-structure (Pile Cap)</td><td>110 110</td><td>178 178</td><td>50 50</td><td>228</td><td>-55.1 -55.1</td><td></td><td>58 58</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>,</td><td></td><td></td><td></td></tr><tr><td>N4</td><td>A B</td><td>Site Formation, Filling and Excavation  Construction of Underground Services and Utilities</td><td>112 110</td><td>242 242</td><td>50 50</td><td>292 292</td><td>-57.3 -57.3</td><td></td><td>58 56</td></tr><tr><td></td><td>C</td><td>Road works</td><td>112</td><td>242</td><td>50</td><td>292</td><td>-57.3</td><td>3.0</td><td>58</td></tr><tr><td></td><td>D E</td><td>Foundation Superstructure</td><td>114 110</td><td>242 242</td><td>50 50</td><td>292 292</td><td>-57.3 -57.3</td><td></td><td>60 56</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>242</td><td>50</td><td>292</td><td>-57.3</td><td></td><td>56</td></tr><tr><td>NC</td><td></td><td>Otto Formation Filling and Formation</td><td>440</td><td>447</td><td>50</td><td>197</td><td>50.0</td><td></td><td>04</td></tr><tr><td>N5</td><td>A B</td><td>Site Formation, Filling and Excavation Construction of Underground Services and Utilities</td><td>112 110</td><td>147 147</td><td>50 50</td><td>197</td><td>-53.9 -53.9</td><td>3.0</td><td>61 59</td></tr><tr><td></td><td>С</td><td>Road works</td><td>112</td><td>147</td><td>50</td><td>197</td><td>-53.9</td><td>3.0</td><td>61</td></tr><tr><td></td><td>D F</td><td>Foundation Superstructure</td><td>114 110</td><td>147 147</td><td>50 50</td><td></td><td></td><td></td><td>63 59</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>147</td><td>50</td><td>197 -53.9 3.0 197 -53.9 3.0 197 -53.9 3.0 53 -42.5 3.0</td><td>59</td></tr><tr><td>N12</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>3</td><td>50</td><td>53</td><td>-42 5</td><td>3.0</td><td>73</td></tr><tr><td>2</td><td>В</td><td>Construction of Underground Services and Utilities</td><td>110</td><td>3</td><td>50</td><td>53</td><td>-42.5</td><td>3.0</td><td>71</td></tr><tr><td></td><td>C</td><td>Road works Equipolation</td><td>112 114</td><td>3</td><td>50 50</td><td></td><td></td><td></td><td>73 75</td></tr><tr><td></td><td>E</td><td>Foundation Superstructure</td><td>110</td><td>3</td><td>50</td><td></td><td></td><td></td><td>75</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>3</td><td>50</td><td></td><td></td><td>Gorr, dB(A)  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.</td><td>71</td></tr><tr><td>N13</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>9</td><td>50</td><td>59</td><td>-43.4</td><td>3.0</td><td>72</td></tr><tr><td></td><td>В</td><td>Construction of Underground Services and Utilities</td><td>110</td><td>9</td><td>50</td><td>59</td><td>-43.4</td><td>3.0</td><td>70</td></tr><tr><td></td><td>C D</td><td>Road works Foundation</td><td>112 114</td><td>9</td><td>50 50</td><td>59 59</td><td>-43.4 -43.4</td><td></td><td>72 74</td></tr><tr><td></td><td>Е</td><td>Superstructure</td><td>110</td><td>9</td><td>50</td><td>59</td><td>-43.4</td><td>3.0</td><td>70</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>9</td><td>50</td><td>59</td><td>-43.4</td><td>  Corr., dB(A)    </td><td>70</td></tr><tr><td>N3</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>242</td><td>50</td><td>292</td><td>-57.3</td><td></td><td>58</td></tr><tr><td></td><td>В</td><td>Construction of Underground Services and Utilities</td><td>110</td><td>242</td><td>50</td><td>292 292</td><td>-57.3</td><td></td><td>56</td></tr><tr><td></td><td>C D</td><td>Road works Foundation</td><td>112 114</td><td>242 242</td><td>50 50</td><td>292</td><td>-57.3 -57.3</td><td></td><td>58 60</td></tr><tr><td></td><td>Е</td><td>Superstructure</td><td>110</td><td>242</td><td>50</td><td>292</td><td>-57.3</td><td>3.0</td><td>56</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>242</td><td>50</td><td>292</td><td>-57.3</td><td>3.0</td><td>56</td></tr><tr><td>N6</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>469</td><td>50</td><td>519</td><td>-62.3</td><td></td><td>53</td></tr><tr><td></td><td>B C</td><td>Construction of Underground Services and Utilities Road works</td><td>110 112</td><td>469 469</td><td>50 50</td><td>519 519</td><td>-62.3 -62.3</td><td></td><td>51 53</td></tr><tr><td></td><td>D</td><td>Foundation</td><td>114</td><td>469</td><td>50</td><td>519</td><td>-62.3</td><td></td><td>55</td></tr><tr><td></td><td>E F</td><td>Superstructure Sub-structure (Pile Cap)</td><td>110</td><td>469 469</td><td>50 50</td><td>519</td><td>-62.3 -62.3</td><td></td><td>51 51</td></tr><tr><td></td><td>F</td><td>Sub-structure (File Cap)</td><td>110</td><td>409</td><td>50</td><td>519</td><td>-02.3</td><td>3.0</td><td>51</td></tr><tr><td>N7</td><td>A</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>275</td><td>50</td><td>325</td><td>-58.2</td><td></td><td>57</td></tr><tr><td></td><td>B C</td><td>Construction of Underground Services and Utilities Road works</td><td>110 112</td><td>275 275</td><td>50 50</td><td>325 325</td><td>-58.2 -58.2</td><td></td><td>55 57</td></tr><tr><td></td><td>D</td><td>Foundation</td><td>114</td><td>275</td><td>50</td><td>325</td><td>-58.2</td><td>3.0</td><td>59</td></tr><tr><td></td><td>E F</td><td>Superstructure Sub-structure (Pile Cap)</td><td>110 110</td><td>275 275</td><td>50 50</td><td>325 325</td><td>-58.2 -58.2</td><td></td><td>55 55</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>,</td></tr><tr><td>N14</td><td>A B</td><td>Site Formation, Filling and Excavation  Construction of Underground Services and Utilities</td><td>112 110</td><td>218 218</td><td>50 50</td><td>268 268</td><td>-56.5 -56.5</td><td></td><td>59 57</td></tr><tr><td></td><td>C</td><td>Road works</td><td>112</td><td>218</td><td>50</td><td>268</td><td>-56.5</td><td></td><td>59</td></tr><tr><td></td><td>D E</td><td>Foundation Superstructure</td><td>114</td><td>218</td><td>50 50</td><td>268</td><td>-56.5</td><td></td><td>61</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110 110</td><td>218 218</td><td>50</td><td>268 268</td><td>-56.5 -56.5</td><td></td><td>57 57</td></tr><tr><td></td><td>_</td><td>Otto Formation Filling and Formation</td><td>440</td><td>0.40</td><td>50</td><td>200</td><td></td><td></td><td></td></tr><tr><td>N_ch</td><td>A B</td><td>Site Formation, Filling and Excavation Construction of Underground Services and Utilities</td><td>112 110</td><td>248 248</td><td>50 50</td><td>298 298</td><td>-57.5 -57.5</td><td></td><td>58 56</td></tr><tr><td></td><td>С</td><td>Road works</td><td>112</td><td>248</td><td>50</td><td>298</td><td>-57.5</td><td>3.0</td><td>58</td></tr><tr><td></td><td>D E</td><td>Foundation Superstructure</td><td>114 110</td><td>248 248</td><td>50 50</td><td>298 298</td><td>-57.5 -57.5</td><td></td><td>60 56</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>248</td><td>50</td><td>298</td><td>-57.5</td><td>  Corr., dB(A)    </td><td>56</td></tr><tr><td>N8</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>343</td><td>50</td><td>393</td><td>-59.9</td><td>3.0</td><td>55</td></tr><tr><td></td><td>В</td><td>Construction of Underground Services and Utilities</td><td>110</td><td>343</td><td>50</td><td>393</td><td>-59.9</td><td>3.0</td><td>53</td></tr><tr><td></td><td>C D</td><td>Road works Foundation</td><td>112 114</td><td>343 343</td><td>50 50</td><td>393 393</td><td>-59.9 -59.9</td><td></td><td>55 57</td></tr><tr><td></td><td>Е</td><td>Superstructure</td><td>110</td><td>343</td><td>50</td><td>393</td><td>-59.9</td><td>3.0</td><td>53</td></tr><tr><td></td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>343</td><td>50</td><td>393</td><td>-59.9</td><td>3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0</td><td>53</td></tr><tr><td>N_sch</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>649</td><td>50</td><td>699</td><td>-64.9</td><td>3.0</td><td>50</td></tr><tr><td>1 -</td><td>В</td><td>Construction of Underground Services and Utilities</td><td>110</td><td>649</td><td>50</td><td>699</td><td>-64.9</td><td></td><td>48</td></tr><tr><td></td><td>C D</td><td>Road works Foundation</td><td>112 114</td><td>649 649</td><td>50 50</td><td>699 699</td><td>-64.9 -64.9</td><td></td><td>50 52</td></tr><tr><td></td><td>Е</td><td>Superstructure</td><td>110</td><td>649</td><td>50</td><td>699</td><td>-64.9</td><td>3.0</td><td>48</td></tr><tr><td>Щ_</td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>649</td><td>50</td><td>699</td><td>-64.9</td><td>3.0</td><td>48</td></tr><tr><td>N4c</td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>210</td><td>50</td><td>260</td><td>-56.3</td><td></td><td>59</td></tr><tr><td></td><td>B C</td><td>Construction of Underground Services and Utilities Road works</td><td>110 112</td><td>210 210</td><td>50 50</td><td>260 260</td><td>-56.3 -56.3</td><td></td><td>57 59</td></tr><tr><td></td><td>D</td><td>Foundation</td><td>114</td><td>210</td><td>50</td><td>260</td><td>-56.3</td><td>3.0</td><td>61</td></tr><tr><td></td><td>E</td><td>Superstructure</td><td>110</td><td>210</td><td>50</td><td>260</td><td>-56.3</td><td></td><td>57</td></tr><tr><td>1</td><td>F</td><td>Sub-structure (Pile Cap)</td><td>110</td><td>210</td><td>50</td><td>260</td><td>-56.3</td><td></td><td>57</td></tr><tr><td></td><td>Α</td><td>Site Formation, Filling and Excavation</td><td>112</td><td>17</td><td>50</td><td>67</td><td>-44.5 -44.5</td><td></td><td>71</td></tr><tr><td>V1P</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>69</td></tr><tr><td>V1P</td><td>B</td><td>Construction of Underground Services and Utilities Road works</td><td>110 112</td><td>17 17</td><td>50 50</td><td>67 67</td><td>-44.5</td><td></td><td>71</td></tr><tr><td>V1P</td><td>B C D</td><td>Road works Foundation</td><td>112 114</td><td>17 17</td><td>50 50</td><td>67 67</td><td>-44.5 -44.5</td><td>3.0 3.0</td><td>71 73</td></tr><tr><td>V1P</td><td>B C</td><td>Road works</td><td>112</td><td>17</td><td>50</td><td>67</td><td>-44.5</td><td>3.0 3.0 3.0</td><td>71</td></tr></tbody></table>
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 $\textbf{Remark:} \ \ ^{**} \ \ \text{Distance is based on shortest horizontal distance}.$ 

# The notional noise source location is assumed based on the methodology listed in the statutory Technical Memorandum on Noise from Construction work other than Percussive Piling and that used in the approved EIA report for Wo Shan Wai. It has been assumed that all PME items are operating and gathered within a worksite for a conservative assessment.

NSR	Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m	Boundary to	Horz. Distance (= A+B), m	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)
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## Calculation of Noise Level Due to Travelling of Dump Truck within the Project Construction Area During Site Formation, Filling and Excavation Stage

NSR	Construction Activity			SWL per Unit, dB(A)	Horz. Distance From NSR, m	Average Speed, km/hr	Calculated LAeq Due to Travelling of Dump Truck, dB(A) ®
N9	G	Dump Trucks Travelling on Haul Road	10	115	228	10	58
N4	G	Dump Trucks Travelling on Haul Road	10	115	292	10	57
N5	G	Dump Trucks Travelling on Haul Road	10	115	197	10	59
N12	G	Dump Trucks Travelling on Haul Road	10	115	53	10	65
N13	G	Dump Trucks Travelling on Haul Road	10	115	59	10	64
N3	G	Dump Trucks Travelling on Haul Road	10	115	292	10	57
N6	G	Dump Trucks Travelling on Haul Road	10	115	519	10	55
N7	G	Dump Trucks Travelling on Haul Road	10	115	325	10	57
N14	G	Dump Trucks Travelling on Haul Road	10	115	268	10	58
N_ch	G	Dump Trucks Travelling on Haul Road	10	115	298	10	57
N8	G	Dump Trucks Travelling on Haul Road	10	115	393	10	56
N_sch	G	Dump Trucks Travelling on Haul Road	10	115	699	10	54
N4c	G	Dump Trucks Travelling on Haul Road	10	115	260	10	58
V1P	G	Dump Trucks Travelling on Haul Road	10	115	67	10	64

Remark: \* According to information available at EPD website: http://www.epd.gov.hk/epd/english/application\_for\_licences/guidance/files/OtherSWLe.pdf

@ Based on equation in the British Standard "Noise Control on Construction and Open Sites, BS 5228: Part 1: 2009": LAeq = SWL – 33 + 10log10 Q – 10 Log10 V – 10log10d
Where,
SWL = Sound Power Level of the dump truck
Q is the number of vehicles per hour
V is the average speed (10 km/hr)
D is the distance of receiver position from the haul road (m) (the horizontal distance between the receiver position and the construction notional noise source is taken in this noise assessment)