

**Agreement No. CE 109/98**  
**Deep Bay Link Investigation and Preliminary Design**  
**Final EIA Report**  
**Appendix 3A - Construction Noise Assessment**  
**Table 3A1 Noise due to Haul Road Traffic in Construction Phase**

**Methodologies and Assumptions**

BS5228 A.3.4.2 Method for mobile plant on haul roads  
 $L_{Aeq} = L_{wa} - 33 + 10 \log Q - 10 \log V - 10 \log d + 3$

L<sub>wa</sub> = sound power level of the plant                      102 dB  
Q = number of vehicles per hr                                      40 veh/hr  
V = average vehicle speed (km/h)                              20 km/h  
d = distance of receiving position from centre of haul road  
Façade effect 3dB added.

(BS5228 Table C.9 ref.no.19)

Road length

**Predicted Noise Level due to Truck Traffic originated from C&DMRF**

<b>Assessment Point</b>	<b>Distance d (m)</b>	<b>Predicted Noise Level, PNL dB(A)</b>
Receiver Distance	3	70.2
Receiver Distance	5	68.0
Receiver Distance	10	65.0

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 Table 3A2.1 Tentative Construction Activities Programme for Noise Assessment

	2003												2004												2005												2006																																						
	1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12																											
Site Preparation and Mobilisation																																																																											
Construction of Haul Roads																																																																											
Construction of Pile and Pilecaps																																																																											
Construction of Piers																																																																											
Construction of Decks																																																																											
Precasting Yard																																																																											
Concrete Batching Plant																																																																											
Alignment Construction																																																																											

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Construction Schedule for Individual Span

	Weeks																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Piling	x	x	x																				
waiting				x	x																		
Pile Cap Construction						x	x																
waiting								x	x	x													
Pier Construction											x	x	x										
waiting														x	x	x							
Launching of segments																		x	x				

Total 18 weeks for a typical span of 40m

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 Table 3A2.2 Noise Sensitive Receivers and Representative Assessment Points

Noise Sensitive Receivers	Representative Assessment Points	Coordinates	
		E	N
E1 Lo Fung Hang	6*	816745	830616
E2 Nam On Fat Tong	8504	816913	830481
E3 Rural/village houses near Route 10 portal	76*	816985	830679
E4 Lam Tei Gospel School	10* (8801)	817317	830934
E5 Rural/village houses near Lam Tei Gospel School	8804	817345	831073
E6 Rural/village houses near Shun Tat Street	82*	817578	831496
E6 Rural/village houses near Shun Tat Street	94*	817850	831680
E6 Rural/village houses near Shun Tat Street	8808	817372	831272
E7 Botania Villa	8425	816667	830974
E8 Fuk Hang Tsuen village	40*	816509	830728
E8 Fuk Hang Tsuen village	42*	816885	830970
E8 Fuk Hang Tsuen village	8414	816709	831129
E8 Fuk Hang Tsuen village	8427	816732	830764
E9 Tuen Mun San Tsuen	8407	816449	831119
E10 Madam Lau Kam Lung Secondary School of Miu Fat Buddhist	8405	816485	831227
E11 Miu Fat Buddhist Monastery	8432	816401	831211
E12 Rural/village houses near Tsoi Yuen Tsuen	43*	817065	831176
E12 Rural/village houses near Tsoi Yuen Tsuen	44*	817193	831261
E12 Rural/village houses near Tsoi Yuen Tsuen	45*	817310	831387
E13 Tsoi Yuen Tsuen	8601	816667	831445
E13 Tsoi Yuen Tsuen	8602	816703	831331
E13 Tsoi Yuen Tsuen	8603	816834	831178
E13 Tsoi Yuen Tsuen	8605	817006	831156
E14 Tsing Chuen Wai	8329	816252	831543
E15 Rural/village houses north to Tsing Chuen Wai	8302	816156	832080
E15 Rural/village houses north to Tsing Chuen Wai	8323	816271	831734
E15 Rural/village houses north to Tsing Chuen Wai	8327	816377	831595
E16 Nai Wai	8613	816849	831546
E18 Rural/village houses near future Area 3B	8704	817474	831632
E19 Tan Kwai Tsuen	96*	817592	831680
E19 Tan Kwai Tsuen	8724	817876	831819
E20 Ying Yin School	8725	817809	831927
E22 San Sang San Tsuen	8201	816958	833413
E24 Rural/village houses near Ngau Hom Shek	8004	815430	835131
E24 Rural/village houses near Ngau Hom Shek	8010	815297	835020
E24 Rural/village houses near Ngau Hom Shek	8016	815243	834922
E24 Rural/village houses near Ngau Hom Shek	8025	815072	834912
E25 Fu Tai Estate	8918	816610	830444

\* Assessment Points were adopted from Agreement No. CE98/98 - Widening of Yuen Long Highway between Lam Tei and Shap Pat Heung Interchange Preliminary Design and Ground Investigation Assignment - Final Environmental Impact Assessment Report (December 2001)

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 Appendix 3A - Construction Noise Assessment  
 Table 3A2.3 Inventory of Powered Mechanical Equipment for Construction Activities

**Construction of Bridge by Cast-insitu Method**

Bridge Cast-insitu	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding*				
				CNP No.	SWL		SWL		SWL			
Piling	Excavation	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94			
		Large diameter Bored, oscillatory	2	CNP165	115	n/a	115	-10	105			
		Excavator	1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96			
		Dump truck	1	CNP067	117	Tab C.3 Ref no. 52	109	-5	104			
		Air compressor	1	CNP002	102	CNP001	100	-10	90			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
		Water pump	2	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
		Breaker	1	CNP025	111	n/a	111	-10	101			
		TOTAL			122		TOTAL	120		TOTAL	110	
			Buffer distance (m)		126		Buffer distance (m)	100		Buffer distance (m)	32	
	Concreting	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94			
		Large diameter Bored, oscillatory	1	CNP165	115	n/a	115	-10	105			
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
		Water Pump	1	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
TOTAL				118		TOTAL	115		TOTAL	105		
			Buffer distance (m)		79		Buffer distance (m)	56		Buffer distance (m)	18	
Pile Cap		Excavation	Air compressor	1	CNP002	102	CNP001	100	-10	90		
			Breaker, hand held	2	CNP023	117	Tab C.3 Ref no. 100	112	-10	102		
	Excavator		1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96			
	Dump truck		1	CNP067	117	Tab C.3 Ref no. 52	109	-5	104			
	Generator		1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
	Water pump		2	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
	TOTAL				122		TOTAL	117		TOTAL	108	
				Buffer distance (m)		126		Buffer distance (m)	71		Buffer distance (m)	25
	Concreting		Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94		
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
		Poker, vibratory, hand held	2	CNP170	113	Tab C.6 Ref no.40	98	-5	93			
		TOTAL			118		TOTAL	104		TOTAL	98	
				Buffer distance (m)		79		Buffer distance (m)	16		Buffer distance (m)	8
		Pier	Temporary Works	Crane, mobile	2	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
Generator				1	CNP102	100	Tab C.7 Ref no.54	89	-10	79		
TOTAL						115		TOTAL	102		TOTAL	97
			Buffer distance (m)		56		Buffer distance (m)	13		Buffer distance (m)	7	
Concreting	Concrete pump, stationery		1	CNP047	109	Tab C.6 Ref. No. 36	106	-10	96			
	Concrete lorry mixer		1	CNP044	109	Tab C.6 Ref no.33	96	-10	86			
	Generator		1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
	Poker, vibratory, hand held		2	CNP170	113	Tab C.6 Ref no.40	98	-5	93			
	TOTAL				118		TOTAL	108		TOTAL	99	
			Buffer distance (m)		79		Buffer distance (m)	25		Buffer distance (m)	9	
Superstructure (cast in-situ)	Temporary Works	Crane, mobile	2	CNP048	112	Tab C.7 Ref no.118	99		99			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89		89			
		TOTAL			115		TOTAL	102		TOTAL	102	
			Buffer distance (m)		56		Buffer distance (m)	13		Buffer distance (m)	13	
	Concreting	Concrete pump, stationery	1	CNP047	109	n/a	109		109			
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96		96			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89		89			
		Poker, vibrators	2	CNP170	113	Tab C.6 Ref no.40	98		98			
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89		79			
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96		88			
		TOTAL			119		TOTAL	110		TOTAL	110	
				Buffer distance (m)		89		Buffer distance (m)	32		Buffer distance (m)	32

\* Location of purpose-built site hoarding could be referred to Figure 3.20

**Construction of Bridge - Segmental Method**

Bridge	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding						
				CNP No.	SWL		SWL		SWL					
Segmental Construction	Piling	Excavation	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94				
			Large diameter bored, oscillatory/grab & Excavator	2	CNP164/165	115	n/a	115	-10	105				
			Dump truck	1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96				
			Air compressor	1	CNP067	117	Tab C.3 Ref no. 52	109	-5	104				
			Generator	1	CNP002	102	CNP001	100	-10	90				
			Water pump	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79				
			Breaker	2	CNP282	103	Tab C.7 Ref no.68	94	-10	84				
				1	CNP025	111	n/a	111	-10	101				
					TOTAL	122	TOTAL	120	TOTAL	110				
					Buffer distance (m)	126	Buffer distance (m)	100	Buffer distance (m)	32				
	Concreting	Crane, mobile	Large diameter bored, oscillatory/grab & Concrete lorry mixer	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94			
				Large diameter bored, oscillatory/grab & Concrete lorry mixer	1	CNP164/165	115	n/a	115	-5	110			
				Generator	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86			
				Water Pump	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
					1	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
						TOTAL	118	TOTAL	115	TOTAL	110			
						Buffer distance (m)	79	Buffer distance (m)	56	Buffer distance (m)	32			
				Pile Cap	Excavation	Air compressor	Breaker, hand held	2	CNP002	102	CNP001	100	-10	90
							Excavator	1	CNP023	117	Tab C.3 Ref no. 101	113	-10	103
							Dump truck	1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96
	Generator	1	CNP067				117	Tab C.3 Ref no. 52	109	-5	104			
	Water pump	2	CNP102				100	Tab C.7 Ref no.54	89	-10	79			
Concreting	Crane, mobile	Concrete lorry mixer	Generator		1	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
			Poker, vibratory, hand held		2	CNP282	103	Tab C.7 Ref no.68	94	-10	84			
						TOTAL	122	TOTAL	117	TOTAL	108			
						Buffer distance (m)	126	Buffer distance (m)	71	Buffer distance (m)	25			
						Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
Pier	Temporary Works	Crane, mobile	Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86				
			Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79				
			Poker, vibratory, hand held	2	CNP170	113	Tab C.6 Ref no.40	98	-5	93				
					TOTAL	118	TOTAL	104	TOTAL	98				
					Buffer distance (m)	79	Buffer distance (m)	16	Buffer distance (m)	8				
	Concreting	Concrete pump, stationery	Concrete lorry mixer	Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
				Poker, vibratory, hand held	2	CNP170	113	Tab C.6 Ref no.40	98	-5	93			
						TOTAL	118	TOTAL	108	TOTAL	99			
						Buffer distance (m)	79	Buffer distance (m)	25	Buffer distance (m)	9			
				Superstructure	Segmental Launching	Gantry Girder, mobile	Crane, mobile	1	CNP047	109	Tab C.6 Ref. No. 36	106	-10	96
Lorry	1	CNP044	109				Tab C.6 Ref no.33	96	-10	86				
Generator	1	CNP102	100				Tab C.7 Ref no.54	89	-10	79				
	2	CNP170	113				Tab C.6 Ref no.40	98	-5	93				
		TOTAL	118				TOTAL	108	TOTAL	99				
Fabrication yard	Concrete lorry mixer	Generator	Compressor		1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
			Lorry		1	CNP044	109	Tab C.6 Ref no.33	96	-10	86			
					1	CNP102	100	Tab C.7 Ref no.54	89	-10	79			
					1	CNP002	100	CNP001	100	-10	90			
					1	CNP141	112	Tab C.8 Ref no.25	96	-10	86			
Noise Barriers	Crane, mobile	Generator	Lorry	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79				
				1	CNP141	112	Tab C.8 Ref no.25	96	-10	86				
					TOTAL	115	TOTAL	101	TOTAL	101				
					Buffer distance (m)	56	Buffer distance (m)	11	Buffer distance (m)	11				

\* Location of purpose-built site hoarding could be referred to Figure 3.20

**Construction of Slip Roads**

Slip Roads	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding* SWL		
				CNP No.	SWL		SWL		SWL	
Piling	Excavation	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
		Large diameter bored, oscillatory/grab &	1	CNP164/165	115	n/a	115	-10	105	
		Excavator	1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96	
		Dump truck	1	CNP067	117	Tab C.3 Ref no. 52	109	-5	104	
		Air compressor	1	CNP002	102	CNP001	100	-10	90	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Water pump	1	CNP282	103	Tab C.7 Ref no.68	94	-10	84	
		Breaker	1	CNP025	111	Tab C.2 Ref no.2	109	-10	99	
			TOTAL		TOTAL	117		TOTAL	109	
			Buffer distance (m)		Buffer distance (m)	71		Buffer distance (m)	28	
	Concreting	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
		Large diameter bored, oscillatory/grab &	1	CNP164/165	115	n/a	115	-10	105	
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Water Pump	1	CNP282	103	Tab C.7 Ref no.68	94	-10	84	
			TOTAL		TOTAL	115		TOTAL	105	
			Buffer distance (m)		Buffer distance (m)	56		Buffer distance (m)	18	
Pile Cap	Excavation	Air compressor	1	CNP002	102	CNP001	100	-10	90	
		Breaker, hand held	1	CNP023	117	Tab C.3 Ref no. 101	113	-10	103	
		Excavator	1	CNP081	112	Tab C.3 Ref no. 35	106	-10	96	
		Dump truck	1	CNP067	117	Tab C.3 Ref no. 52	109	-5	104	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Water pump	1	CNP282	103	Tab C.7 Ref no.68	94	-10	84	
				TOTAL		TOTAL	115		TOTAL	107
				Buffer distance (m)		Buffer distance (m)	56		Buffer distance (m)	22
	Concreting	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Poker, vibratory, hand held	2	CNP170	113	Tab C.6 Ref no.40	98	-5	93	
				TOTAL		TOTAL	104		TOTAL	98
				Buffer distance (m)		Buffer distance (m)	16		Buffer distance (m)	8
	Pier	Temporary Works	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94
Generator			1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
				TOTAL		TOTAL	99		TOTAL	94
				Buffer distance (m)		Buffer distance (m)	9		Buffer distance (m)	5
Concreting		Concrete pump, stationery	1	CNP047	109	Tab C.6 Ref. No. 36	106	-10	96	
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Poker, vibratory, hand held	1	CNP170	113	Tab C.6 Ref no.40	98	-5	93	
				TOTAL		TOTAL	107		TOTAL	98
			Buffer distance (m)		Buffer distance (m)	22		Buffer distance (m)	8	
Superstructure		Segmental Launching	Gantry Girder, mobile	1	CNP048	112	Tab C.7 Ref no.118	99		99
			Crane, mobile	1	CNP048	112	Tab C.7 Ref no.112	102		102
			Lorry	1	CNP141	112	Tab C.8 Ref no.25	96		96
			Generator	1	CNP102	100	Tab C.7 Ref no.54	89		89
				TOTAL		TOTAL	105		TOTAL	105
			Buffer distance (m)		Buffer distance (m)	18		Buffer distance (m)	18	
	Fabrication yard	Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96		96	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89		89	
		Compressor	1	CNP002	102	CNP001	100		100	
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96		96	
			TOTAL		TOTAL	103		TOTAL	103	
			Buffer distance (m)		Buffer distance (m)	14		Buffer distance (m)	14	
Noise Barriers	Crane, mobile	Generator	1	CNP048	112	Tab C.7 Ref no.118	99		99	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89		89	
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96		96	
				TOTAL		TOTAL	101		TOTAL	101
			Buffer distance (m)		Buffer distance (m)	11		Buffer distance (m)	11	

Remarks:  
 \* Site-hoarding could only reduce noise impact during piling and construction of pile caps and piers.  
 Location of purpose-built site hoarding could be referred to Figure 3.21

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**Fabrication Yard Activities**

Bridge	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding		
				CNP No.	SWL		SWL		SWL	
Fabrication Yard	Concreting	Concrete lorry mixer	6	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	6	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
Compressor		6	CNP002	102	CNP001	100	-10	90		
Vibration plate, stationery		6	CNP170	113	Tab C.6 Ref no.40	98	-10	88		
Poker, vibrators		12	CNP170	113	Tab C.6 Ref no.40	98	-5	93		
			TOTAL			TOTAL	113		TOTAL	106
			Buffer distance (m)		200	Buffer distance (m)	45		Buffer distance (m)	20
Batching Plant		Batching plant - stationery	1	CNP022	108	Tab C.6 Ref no. 10	106	-10	96	
		Tower crane	1	CNP049	95	n/a	95	-5	90	
		Concrete lorry mixer	10	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
	Cement Lorry	1	CNP044	109	Tab C.8 Ref no.25	96	-5	91		
	Aggregate Lorry	2	CNP044	109	Tab C.8 Ref no.25	96	-5	91		
	Water pump	1	CNP282	103	Tab C.7 Ref no.68	94	-10	84		
			TOTAL			TOTAL	110		TOTAL	101
			Buffer distance (m)		100	Buffer distance (m)	32		Buffer distance (m)	11

**Note:**

The Fabrication yard as shown above is for one production line.  
 Six production lines may be required, however this may not be cast at the same period.  
 It is understood that each production line can produce a segment in 2 days.

Period	No. of production lines required
8/2003 to 8/2005	6



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 Table 3A2.3 Inventory of Powered Mechanical Equipment for Construction Activities

<u>Roadworks</u>				UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding		
Roadworks	Activity	Proposed Construction Plants	Nos	CNP No.	SWL	SWL			SWL	
Earthwork	Cut & fill	Excavator	1	CNP081	112	Tab C.3 Ref no. 40	108	-10	98	
		Bull dozer	1	CNP030	115	Tab C.9 Ref no. 2	104	-5	99	
		Roller	1	CNP186	108	Tab C.8 Ref no. 29	105	-5	100	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Grader	1	CNP104	113	Tab C.9 Ref no. 11	110	-5	105	
		Lorry	1	CNP141	112	Tab C.8 Ref no.16	108	-5	103	
		Air compressor	1	CNP002	102	CNP001	100	-10	90	
		Breaker	1	CNP025	111	n/a	111	-10	101	
		TOTAL				120	TOTAL	116	TOTAL	110
		Buffer distance (m)				100	Buffer distance (m)	63	Buffer distance (m)	32
Retaining walls & abutments	Temporary Works	Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		TOTAL				112	TOTAL	99	TOTAL	94
		Buffer distance (m)				40	Buffer distance (m)	9	Buffer distance (m)	5
	Concreting	Concrete pump, stationery	1	CNP047	109	Tab C.6 Ref. No. 36	106	-10	96	
		Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	2	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Poker, vibratory, hand held	2	CNP170	113	Tab C.6 Ref no.40	98	-5	93	
		TOTAL				118	TOTAL	108	TOTAL	99
		Buffer distance (m)				79	Buffer distance (m)	25	Buffer distance (m)	9
Carriageway	Asphalt	Road Roller	1	CNP185	108	Tab C.8 Ref no.30	101	-5	96	
		Asphalt Paver	1	CNP004	109	Tab C.8 Ref no.24	101	-5	96	
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96	-5	91	
		TOTAL				115	TOTAL	105	TOTAL	100
	Buffer distance (m)				56	Buffer distance (m)	18	Buffer distance (m)	10	
	Concreting	Concrete lorry mixer	1	CNP044	109	Tab C.6 Ref no.33	96	-10	86	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Poker, vibratory, hand held	1	CNP170	113	Tab C.6 Ref no.40	98	-5	93	
		Vibration plate, hand held	1	CNP170	113	Tab C.6 Ref no.40	98	-5	93	
		TOTAL				115	TOTAL	100	TOTAL	97
Buffer distance (m)					56	Buffer distance (m)	10	Buffer distance (m)	7	
Noise Barrier		Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94	
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96	-5	91	
		TOTAL				115	TOTAL	101	TOTAL	96
		Buffer distance (m)				56	Buffer distance (m)	11	Buffer distance (m)	6

Number of equipment represents the maximum number in 30 minutes' time.

Table 3A2.3 Inventory of Powered Mechanical Equipment for Construction Activities

<u>Construction of Cut &amp; Cover Tunnel</u>				UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding			
Cut & Cover Tunnel	Activity	Proposed Construction Plants	Nos	CNP No.	SWL		SWL		SWL		
Using top down method Excavation	Sheet Piling	Crane, mobile	2	CNP048	112	Tab C.7 Ref no.118	99	-5	97		
		Generator	2	CNP102	100	Tab C.7 Ref no.54	89	-10	79		
		Air compressor	2	CNP002	102	CNP001	100	-10	90		
		Lorry	1	CNP141	112	Tab C.8 Ref no.16	108	-5	103		
		TOTAL			117	TOTAL	111	TOTAL	106		
					Buffer distance (m)	71	Buffer distance (m)	35	Buffer distance (m)	20	
	Cut & Fill	Excavator Bull dozer Roller Generator Lorry Air compressor Breaker Grader	Excavator	2	CNP081	112	Tab C.3 Ref no. 35	106	-10	96	
			Bull dozer	1	CNP030	115	Tab C.9 Ref no. 2	104	-5	99	
			Roller	1	CNP186	108	Tab C.8 Ref no. 29	105	-5	100	
			Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79	
			Lorry	4	CNP141	112	Tab C.8 Ref no.16	108	-5	103	
			Air compressor	1	CNP002	102	CNP001	100	-10	90	
			Breaker	1	CNP023	117	Tab C.3 Ref no. 101	113	-10	103	
Grader			1	CNP104	113	Tab C.9 Ref no. 11	110	-5	105		
TOTAL					123	TOTAL	118	TOTAL	112		
						Buffer distance (m)	141	Buffer distance (m)	79	Buffer distance (m)	40
Concreting	Crane, mobile Concrete pump, stationery Concrete lorry mixer Generator Water Pump Generator Poker, vibratory, hand held	Crane, mobile	2	CNP048	112	Tab C.7 Ref no.118	99	-5	97		
		Concrete pump, stationery	1	CNP047	109	Tab C.6 Ref. No. 36	106	-5	101		
		Concrete lorry mixer	2	CNP044	109	Tab C.6 Ref no.33	96	-5	91		
		Generator	2	CNP102	100	Tab C.7 Ref no.54	89	-10	79		
		Water Pump	2	CNP282	103	Tab C.7 Ref no.68	94	-10	90		
		Generator	2	CNP102	100	Tab C.7 Ref no.54	89	-10	79		
		Poker, vibratory, hand held	3	CNP170	113	Tab C.6 Ref no.40	98	-5	93		
		TOTAL			121	TOTAL	111	TOTAL	106		
						Buffer distance (m)	112	Buffer distance (m)	35	Buffer distance (m)	20
		Carriageway	Asphalt	Road Roller	2	CNP185	108	Tab C.8 Ref no.30	101	-5	96
Asphalt Paver	2			CNP004	109	Tab C.8 Ref no.24	101	-5	96		
Lorry	2			CNP141	112	Tab C.8 Ref no.25	96	-5	91		
TOTAL					118	TOTAL	108	TOTAL	103		
						Buffer distance (m)	79	Buffer distance (m)	25	Buffer distance (m)	14

Number of equipment represents the maximum number in 30 minutes' time.

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A2.4 Notional Noise Sources used for Assessment**

Fixed construction sites	NNS	Coordinates		
		Easting	Northing	
Lam Tei Interchange Work Site	Precasting Yard	NNS-A	817200	831080
	Concrete Batching	NNS-B	816944	831056
Work Site Near HSK-NDA Area	Precasting Yard	NNS-C	816296	832316

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 Table 3A2.4 Distance of Assessment Points to Notional Noise Sources

NSR	AP	E	N	Notional Noise Source		
				NNS-A	NNS-B	NNS-C
				817200 831080	816944 831056	816296 832316
E1	6	816745	830616	650	483	1758
E2	8504	816913	830481	664	576	1936
E3	76	816985	830679	455	379	1776
E4	10(8801)	817317	830934	187	392	1718
E5	8804	817345	831073	145	401	1626
E6	82	817578	831496	562	772	1522
E6	94	817850	831680	885	1100	1679
E6	8808	817372	831272	258	479	1500
E7	8425	816667	830974	543	289	1392
E8	40	816509	830728	775	545	1602
E8	42	816885	830970	334	104	1469
E8	8414	816709	831129	494	246	1257
E8	8427	816732	830764	565	361	1612
E9	8407	816449	831119	752	499	1207
E10	8405	816485	831227	730	490	1105
E11	8432	816401	831211	810	565	1110
E12	43	817065	831176	166	170	1375
E12	44	817193	831261	181	323	1385
E12	45	817310	831387	326	493	1375
E13	8601	816667	831445	646	478	947
E13	8602	816703	831331	557	366	1066
E13	8603	816834	831178	379	164	1259
E13	8605	817006	831156	208	118	1360
E14	8329	816252	831543	1055	846	774
E15	8302	816156	832080	1446	1292	274
E15	8323	816271	831734	1136	955	583
E15	8327	816377	831595	971	782	726
E16	8613	816849	831546	583	499	948
E18	8704	817474	831632	616	783	1362
E19	96	817592	831680	717	900	1444
E19	8724	817876	831819	1002	1205	1657
E20	8725	817809	831927	1043	1228	1562
E22	8201	816958	833413	2346	2357	1281
E25	8918	816610	830444	868	697	1899

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 Table 3A2.4 Unmitigated Scenario for Fixed Sites Construction Noise  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

**Fixed Sites Max Noise (SWL)**

**Lam Tei Interchange Work Site**

Fabrication Yard	126
Batching Plant	120

**Work Site Near HSK-NDA Area**

Fabrication Yard	126
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NSR	AP	Notional Noise Source				
		NNS-A	NNS-B	NNS-C		
		817200 831080	816944 831056	816296 832316		
E1	6	816745	830616	65	61	56
E2	8504	816913	830481	65	60	55
E3	76	816985	830679	68	63	56
E4	10(8801)	817317	830934	<u>76</u>	63	56
E5	8804	817345	831073	<u>78</u>	63	57
E6	82	817578	831496	66	57	57
E6	94	817850	831680	62	54	56
E6	8808	817372	831272	73	61	57
E7	8425	816667	830974	66	66	58
E8	40	816509	830728	63	60	57
E8	42	816885	830970	71	75	58
E8	8414	816709	831129	67	67	59
E8	8427	816732	830764	66	64	57
E9	8407	816449	831119	63	61	59
E10	8405	816485	831227	64	61	60
E11	8432	816401	831211	63	60	60
E12	43	817065	831176	<u>77</u>	70	58
E12	44	817193	831261	<u>76</u>	65	58
E12	45	817310	831387	71	61	58
E13	8601	816667	831445	65	61	61
E13	8602	816703	831331	66	64	60
E13	8603	816834	831178	69	71	59
E13	8605	817006	831156	75	74	58
E14	8329	816252	831543	61	56	63
E15	8302	816156	832080	58	53	72
E15	8323	816271	831734	60	55	66
E15	8327	816377	831595	61	57	64
E16	8613	816849	831546	66	61	61
E18	8704	817474	831632	65	57	58
E19	96	817592	831680	64	56	58
E19	8724	817876	831819	61	53	57
E20	8725	817809	831927	61	53	57
E22	8201	816958	833413	54	48	59
E25	8918	816610	830444	62	58	55

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 Table 3A2.4 Mitigated Scenario for Fixed Sites Construction Noise  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Fixed Sites	Max Noise (SWL)
<b>Lam Tei Interchange Work Site</b>	
Fabrication Yard	106
Batching Plant	101

<b>Work Site Near HSK-NDA Area</b>	
Fabrication Yard	106

NSR	AP	Notional Noise Source				
		NNS-A	NNS-B	NNS-C		
		817200 831080	816944 831056	816296 832316		
E1	6	816745	830616	45	42	36
E2	8504	816913	830481	45	41	35
E3	76	816985	830679	48	44	36
E4	10(8801)	817317	830934	56	44	36
E5	8804	817345	831073	58	44	37
E6	82	817578	831496	46	38	37
E6	94	817850	831680	42	35	36
E6	8808	817372	831272	53	42	37
E7	8425	816667	830974	46	47	38
E8	40	816509	830728	43	41	37
E8	42	816885	830970	51	56	38
E8	8414	816709	831129	47	48	39
E8	8427	816732	830764	46	45	37
E9	8407	816449	831119	43	42	39
E10	8405	816485	831227	44	42	40
E11	8432	816401	831211	43	41	40
E12	43	817065	831176	57	51	38
E12	44	817193	831261	56	46	38
E12	45	817310	831387	51	42	38
E13	8601	816667	831445	45	42	41
E13	8602	816703	831331	46	45	40
E13	8603	816834	831178	49	52	39
E13	8605	817006	831156	55	55	38
E14	8329	816252	831543	41	37	43
E15	8302	816156	832080	38	34	52
E15	8323	816271	831734	40	36	46
E15	8327	816377	831595	41	38	44
E16	8613	816849	831546	46	42	41
E18	8704	817474	831632	45	38	38
E19	96	817592	831680	44	37	38
E19	8724	817876	831819	41	34	37
E20	8725	817809	831927	41	34	37
E22	8201	816958	833413	34	29	39
E25	8918	816610	830444	42	39	35

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 Table 3A2.5 Unmitigated Scenario for Noise From Alignment Construction

NSR	AP	Distance to the nearest Pier 1	Distance to the nearest Pier 2	Distance to the nearest Pier 3	S	SWL for construction work				Distance Correction (dB(A))									Façade Effect (dB(A))				Pier 1 Piling			
						Piling	Pile Cap	Pier	Superstructure	Pier 1 Piling	Pier 1 Pile Cap	Pier 1 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 3 Piling	Pier 3 Pile Cap	Pier 3 Pier	Nearest Superstructure	Piling	Pile Cap	Pier		Superstructure		
E1	6	214	181	160	S	121	121	116	117	-55	-55	-55	-53	-53	-53	-52	-52	-52	-52	-52	3	3	3	3	3	69
E2	8504	244	240	241	S	121	121	116	117	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	3	3	3	3	3	68
E3	76	79	57	72	S	121	121	116	117	-46	-46	-46	-43	-43	-43	-45	-45	-45	-45	-43	3	3	3	3	3	78
E4	8801	72	58	76	S	121	121	116	117	-45	-45	-45	-43	-43	-43	-46	-46	-46	-46	-43	3	3	3	3	3	79
E5	8804	94	124	158	S	121	121	116	117	-47	-47	-47	-50	-50	-50	-52	-52	-52	-52	-47	3	3	3	3	3	77
E6	82	97	65	43	S	121	121	116	117	-48	-48	-48	-44	-44	-44	-41	-41	-41	-41	-41	3	3	3	3	3	76
E6	94	218	171	130	S	121	121	116	117	-55	-55	-55	-53	-53	-53	-50	-50	-50	-50	-50	3	3	3	3	3	69
E6	8808	77	50	39	S	121	121	116	117	-46	-46	-46	-42	-42	-42	-40	-40	-40	-40	-40	3	3	3	3	3	78
E7	8425	184	172	181		122	122	118	119	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	3	3	3	3	3	72
E8	40	421	384	360		122	122	118	119	-60	-60	-60	-60	-60	-60	-59	-59	-59	-59	-59	3	3	3	3	3	65
E8	42	106	99	107		122	122	118	119	-49	-49	-49	-48	-48	-48	-49	-49	-49	-49	-48	3	3	3	3	3	76
E8	8414	70	29	55	S	121	121	116	117	-45	-45	-45	-37	-37	-37	-43	-43	-43	-43	-37	3	3	3	3	3	79
E8	8427	201	167	144		122	122	118	119	-54	-54	-54	-52	-52	-52	-51	-51	-51	-51	-51	3	3	3	3	3	71
E9	8407	255	262	283		122	122	118	119	-56	-56	-56	-56	-56	-56	-57	-57	-57	-57	-56	3	3	3	3	3	69
E10	8405	172	162	167		122	122	118	119	-53	-53	-53	-52	-52	-52	-52	-52	-52	-52	-52	3	3	3	3	3	72
E11	8432	240	239	251		122	122	118	119	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	3	3	3	3	3	69
E12	43	48	39	50	S	121	121	116	117	-42	-42	-42	-40	-40	-40	-42	-42	-42	-42	-40	3	3	3	3	3	82
E12	44	62	60	79	S	121	121	116	117	-44	-44	-44	-44	-44	-44	-46	-46	-46	-46	-44	3	3	3	3	3	80
E12	45	66	60	83	S	121	121	116	117	-44	-44	-44	-44	-44	-44	-46	-46	-46	-46	-44	3	3	3	3	3	80
E13	8601	115	115	125		122	122	118	119	-49	-49	-49	-49	-49	-49	-50	-50	-50	-50	-49	3	3	3	3	3	76
E13	8602	99	76	91		122	122	118	119	-48	-48	-48	-46	-46	-46	-47	-47	-47	-47	-46	3	3	3	3	3	77
E13	8603	34	51	90	S	121	121	116	117	-39	-39	-39	-42	-42	-42	-47	-47	-47	-47	-39	3	3	3	3	3	85
E13	8605	51	21	47	S	121	121	116	117	-42	-42	-42	-34	-34	-34	-41	-41	-41	-41	-34	3	3	3	3	3	82
E14	8329	196	198	205		122	122	118	119	-54	-54	-54	-54	-54	-54	-54	-54	-54	-54	-54	3	3	3	3	3	71
E15	8302	104	95	96		122	122	118	119	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	3	3	3	3	3	77
E15	8323	89	60	75		122	122	118	119	-47	-47	-47	-44	-44	-44	-46	-46	-46	-46	-44	3	3	3	3	3	78
E15	8327	86	68	73		122	122	118	119	-47	-47	-47	-45	-45	-45	-45	-45	-45	-45	-45	3	3	3	3	3	78
E16	8613	321	322	332		122	122	118	119	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	3	3	3	3	3	67
E18	8704	191	167	145	S	121	121	116	117	-54	-54	-54	-52	-52	-52	-51	-51	-51	-51	-51	3	3	3	3	3	70
E19	96	76	97	129	S	121	121	116	117	-46	-46	-46	-48	-48	-48	-50	-50	-50	-50	-46	3	3	3	3	3	78
E19	8724	309	260	217	S	121	121	116	117	-58	-58	-58	-56	-56	-56	-55	-55	-55	-55	-55	3	3	3	3	3	66
E20	8725	350	309	274	S	121	121	116	117	-59	-59	-59	-58	-58	-58	-57	-57	-57	-57	-57	3	3	3	3	3	65
E22	8201	457	471	497		122	122	118	119	-61	-61	-61	-61	-61	-61	-62	-62	-62	-62	-61	3	3	3	3	3	64
E25	8918	425	395	377	S	121	121	116	117	-61	-61	-61	-60	-60	-60	-60	-60	-60	-60	-60	3	3	3	3	3	63

NSR	AP	PNL from each sub-task (dB(A))								Cumulative Impact due to piling construction dB(A)	Cumulative Impact due to pile cap construction dB(A)	Cumulative Impact due to pier construction dB(A)	Impact due to superstructure construction dB(A)
		Pier 1 Pile Cap	Pier 1 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 3 Piling	Pier 3 Pile Cap	Pier 3 Pier				
E1	6	69	64	71	71	66	72	72	67	76	76	71	68
E2	8504	68	63	68	68	63	68	68	63	73	73	68	64
E3	76	78	73	81	81	76	79	79	74	84	84	79	77
E4	8801	79	74	81	81	76	78	78	73	84	84	79	77
E5	8804	77	72	74	74	69	72	72	67	79	79	74	73
E6	82	76	71	80	80	75	83	83	78	85	85	80	79
E6	94	69	64	71	71	66	74	74	69	77	77	72	70
E6	8808	78	73	82	82	77	84	84	79	87	87	82	80
E7	8425	72	68	72	72	68	72	72	68	77	77	73	69
E8	40	65	61	65	65	61	66	66	62	70	70	66	63
E8	42	76	72	77	77	73	76	76	72	81	81	77	74
E8	8414	79	74	87	87	82	81	81	76	88	88	83	83
E8	8427	71	67	73	73	69	74	74	70	77	77	73	71
E9	8407	69	65	69	69	65	68	68	64	73	73	69	66
E10	8405	72	68	73	73	69	73	73	69	77	77	73	70
E11	8432	69	65	69	69	65	69	69	65	74	74	70	66
E12	43	82	77	84	84	79	82	82	77	88	88	83	80
E12	44	80	75	80	80	75	78	78	73	84	84	79	76
E12	45	80	75	80	80	75	78	78	73	84	84	79	76
E13	8601	76	72	76	76	72	75	75	71	80	80	76	73
E13	8602	77	73	79	79	75	78	78	74	83	83	79	76
E13	8603	85	80	82	82	77	77	77	72	87	87	82	81
E13	8605	82	77	90	90	85	83	83	78	91	91	86	85
E14	8329	71	67	71	71	67	71	71	67	76	76	72	68
E15	8302	77	73	77	77	73	77	77	73	82	82	78	74
E15	8323	78	74	81	81	77	79	79	75	85	85	81	78
E15	8327	78	74	80	80	76	80	80	76	84	84	80	77
E16	8613	67	63	67	67	63	67	67	63	72	72	68	64
E18	8704	70	65	72	72	67	73	73	68	76	76	71	69
E19	96	78	73	76	76	71	74	74	69	81	81	76	74
E19	8724	66	61	68	68	63	69	69	64	73	73	68	65
E20	8725	65	60	66	66	61	67	67	62	71	71	66	63
E22	8201	64	60	64	64	60	63	63	59	68	68	64	61
E25	8918	63	58	64	64	59	64	64	59	69	69	64	60

Table 3A2.5 Alignment Construction Unmitigated



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 Appendix 3A - Construction Noise Assessment  
 Table 3A2.5 Mitigated Scenario for Noise From Alignment Construction

NSR	AP	Distance to the nearest Pier 1	Distance to the nearest Pier 2	Distance to the nearest Pier 3		SWL for construction work				Distance Correction (dB(A))									Façade Effect (dB(A))					
						Piling	Pile Cap	Pier	Superstructure	Pier 1 Piling	Pier 1 Pile Cap	Pier 1 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 3 Piling	Pier 3 Pile Cap	Pier 3 Pier	Nearest Superstructure	Piling	Pile Cap	Pier	Superstructure	
E1	6	214	181	160	S	109	107	98	105	-55	-55	-55	-53	-53	-53	-52	-52	-52	-52	-52	3	3	3	3
E2	8504	244	240	241	S	109	107	98	105	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	3	3	3	3
E3	76	79	57	72	S	109	107	98	105	-46	-46	-46	-43	-43	-43	-45	-45	-45	-43	3	3	3	3	
E4	8801	72	58	76	S	109	107	98	105	-45	-45	-45	-43	-43	-43	-46	-46	-46	-43	3	3	3	3	
E5	8804	94	124	158	S	109	107	98	105	-47	-47	-47	-50	-50	-50	-52	-52	-52	-47	3	3	3	3	
E6	82	97	65	43	S	109	107	98	105	-48	-48	-48	-44	-44	-44	-41	-41	-41	-41	3	3	3	3	
E6	94	218	171	130	S	109	107	98	105	-55	-55	-55	-53	-53	-53	-50	-50	-50	-50	3	3	3	3	
E6	8808	77	50	39	S	109	107	98	105	-46	-46	-46	-42	-42	-42	-40	-40	-40	-40	3	3	3	3	
E7	8425	184	172	181		110	108	99	110	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	3	3	3	3	
E8	40	421	384	360		110	108	99	110	-60	-60	-60	-60	-60	-60	-59	-59	-59	-59	3	3	3	3	
E8	42	106	99	107		110	108	99	110	-49	-49	-49	-48	-48	-48	-49	-49	-49	-48	3	3	3	3	
E8	8414	70	29	55	S	109	107	98	105	-45	-45	-45	-37	-37	-37	-43	-43	-43	-37	3	3	3	3	
E8	8427	201	167	144		110	108	99	110	-54	-54	-54	-52	-52	-52	-51	-51	-51	-51	3	3	3	3	
E9	8407	255	262	283		110	108	99	110	-56	-56	-56	-56	-56	-56	-57	-57	-57	-56	3	3	3	3	
E10	8405	172	162	167		110	108	99	110	-53	-53	-53	-52	-52	-52	-52	-52	-52	-52	3	3	3	3	
E11	8432	240	239	251		110	108	99	110	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	3	3	3	3	
E12	43	48	39	50	S	109	107	98	105	-42	-42	-42	-40	-40	-40	-42	-42	-42	-40	3	3	3	3	
E12	44	62	60	79	S	109	107	98	105	-44	-44	-44	-44	-44	-44	-46	-46	-46	-44	3	3	3	3	
E12	45	66	60	83	S	109	107	98	105	-44	-44	-44	-44	-44	-44	-46	-46	-46	-44	3	3	3	3	
E13	8601	115	115	125		110	108	99	110	-49	-49	-49	-49	-49	-49	-50	-50	-50	-49	3	3	3	3	
E13	8602	99	76	91		110	108	99	110	-48	-48	-48	-46	-46	-46	-47	-47	-47	-46	3	3	3	3	
E13	8603	34	51	90	S	109	107	98	105	-39	-39	-39	-42	-42	-42	-47	-47	-47	-39	3	3	3	3	
E13	8605	51	21	47	S	109	107	98	105	-42	-42	-42	-34	-34	-34	-41	-41	-41	-34	3	3	3	3	
E14	8329	196	198	205		110	108	99	110	-54	-54	-54	-54	-54	-54	-54	-54	-54	-54	3	3	3	3	
E15	8302	104	95	96		110	108	99	110	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	3	3	3	3	
E15	8323	89	60	75		110	108	99	110	-47	-47	-47	-44	-44	-44	-46	-46	-46	-44	3	3	3	3	
E15	8327	86	68	73		110	108	99	110	-47	-47	-47	-45	-45	-45	-45	-45	-45	-45	3	3	3	3	
E16	8613	321	322	332		110	108	99	110	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	3	3	3	3	
E18	8704	191	167	145	S	109	107	98	105	-54	-54	-54	-52	-52	-52	-51	-51	-51	-51	3	3	3	3	
E19	96	76	97	129	S	109	107	98	105	-46	-46	-46	-48	-48	-48	-50	-50	-50	-46	3	3	3	3	
E19	8724	309	260	217	S	109	107	98	105	-58	-58	-58	-56	-56	-56	-55	-55	-55	-55	3	3	3	3	
E20	8725	350	309	274	S	109	107	98	105	-59	-59	-59	-58	-58	-58	-57	-57	-57	-57	3	3	3	3	
E22	8201	457	471	497		110	108	99	110	-61	-61	-61	-61	-61	-61	-62	-62	-62	-61	3	3	3	3	
E25	8918	425	395	377	S	109	107	98	105	-61	-61	-61	-60	-60	-60	-60	-60	-60	-60	3	3	3	3	

NSR	AP	PNL from each sub-task (dB(A))										Cumulative Impact due to piling construction dB(A)	Cumulative Impact due to pile cap construction dB(A)	Cumulative Impact due to pier construction dB(A)	Impact due to superstructure construction dB(A)
		Pier 1 Piling	Pier 1 Pile Cap	Pier 2 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 2 Piling	Pier 3 Pier	Pier 3 Pile Cap	Pier 3 Pier				
E1	6	57	55	46	59	57	48	60	58	49	64	62	53	56	
E2	8504	56	54	45	56	54	45	56	54	45	61	59	50	52	
E3	76	66	64	55	69	67	58	67	65	56	72	70	61	65	
E4	8801	67	65	56	69	67	58	66	64	55	72	70	61	65	
E5	8804	65	63	54	62	60	51	60	58	49	67	65	56	61	
E6	82	64	62	53	68	66	57	71	69	60	73	71	62	67	
E6	94	57	55	46	59	57	48	62	60	51	65	63	54	58	
E6	8808	66	64	55	70	68	59	72	70	61	75	73	64	68	
E7	8425	60	58	49	60	58	49	60	58	49	65	63	54	60	
E8	40	53	51	42	53	51	42	54	52	43	58	56	47	54	
E8	42	64	62	53	65	63	54	64	62	53	69	67	58	65	
E8	8414	67	65	56	75	73	64	69	67	58	76	74	65	71	
E8	8427	59	57	48	61	59	50	62	60	51	65	63	54	62	
E9	8407	57	55	46	57	55	46	56	54	45	61	59	50	57	
E10	8405	60	58	49	61	59	50	61	59	50	65	63	54	61	
E11	8432	57	55	46	57	55	46	57	55	46	62	60	51	57	
E12	43	70	68	59	72	70	61	70	68	59	76	74	65	68	
E12	44	68	66	57	68	66	57	66	64	55	72	70	61	64	
E12	45	68	66	57	68	66	57	66	64	55	72	70	61	64	
E13	8601	64	62	53	64	62	53	63	61	52	68	66	57	64	
E13	8602	65	63	54	67	65	56	66	64	55	71	69	60	67	
E13	8603	73	71	62	70	68	59	65	63	54	75	73	64	69	
E13	8605	70	68	59	78	76	67	71	69	60	79	77	68	74	
E14	8329	59	57	48	59	57	48	59	57	48	64	62	53	59	
E15	8302	65	63	54	65	63	54	65	63	54	70	68	59	65	
E15	8323	66	64	55	69	67	58	67	65	56	73	71	62	69	
E15	8327	66	64	55	68	66	57	68	66	57	72	70	61	68	
E16	8613	55	53	44	55	53	44	55	53	44	60	58	49	55	
E18	8704	58	56	47	60	58	49	61	59	50	64	62	53	57	
E19	96	66	64	55	64	62	53	62	60	51	69	67	58	62	
E19	8724	54	52	43	56	54	45	57	55	46	61	59	50	53	
E20	8725	53	51	42	54	52	43	55	53	44	59	57	48	51	
E22	8201	52	50	41	52	50	41	51	49	40	56	54	45	52	
E25	8918	51	49	40	52	50	41	52	50	41	57	55	46	48	

Table 3A2.5 Alignment Construction Mitigated

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 Table 3A2.5 Specific Measures for Affected NSRs After Providing with Proposed Purpose-Built Site Hoarding

NSR	AP	Distance to the nearest Pier 1	Distance to the nearest Pier 2	Distance to the nearest Pier 3		SWL for construction work				Distance Correction (dB(A))									Façade Effect (dB(A))				
						Piling	Pile Cap	Pier	Superstructure	Pier 1 Piling	Pier 1 Pile Cap	Pier 1 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 3 Piling	Pier 3 Pile Cap	Pier 3 Pier	Nearest Superstructure	Piling	Pile Cap	Pier	Superstructure
E4	8801	-	58	-	S	109	107	98	105	-	-	-	-43	-43	-43	-	-	-	-43	3	3	3	3
E4	8801	72	-	-	S	109	107	98	105	-45	-45	-45	-	-	-	-	-	-	-45	3	3	3	3
E4	8801	-	-	76	S	109	107	98	105	-	-	-	-	-	-46	-46	-46	-	-46	3	3	3	3
E8	8414	-	29	-	S	109	107	98	105	-	-	-	-37	-37	-37	-	-	-	-37	3	3	3	3
E8	8414	55	55	55	S	109	107	98	105	-43	-43	-43	-43	-43	-43	-43	-43	-43	-43	3	3	3	3
E12	43	-	39	-	S	109	107	98	105	-	-	-	-40	-40	-40	-	-	-	-40	3	3	3	3
E12	43	48	48	48	S	109	107	98	105	-42	-42	-42	-42	-42	-42	-42	-42	-42	-42	3	3	3	3
E13	8605	-	21	-	S	109	107	98	105	-	-	-	-34	-34	-34	-	-	-	-34	3	3	3	3
E13	8605	47	47	47	S	109	107	98	105	-41	-41	-41	-41	-41	-41	-41	-41	-41	-41	3	3	3	3
E13	8605	51	21	47	S	109	107	98	105	-42	-42	-42	-34	-34	-34	-41	-41	-41	-34	3	3	3	3

NSR	AP	PNL from each sub-task (dB(A))									Cumulative Impact due to piling construction dB(A)	Cumulative Impact due to pile cap construction dB(A)	Cumulative Impact due to pier construction dB(A)	Impact due to superstructure construction dB(A)
		Pier 1 Piling	Pier 1 Pile Cap	Pier 1 Pier	Pier 2 Piling	Pier 2 Pile Cap	Pier 2 Pier	Pier 3 Piling	Pier 3 Pile Cap	Pier 3 Pier				
E4	8801				69	67	58				69	67	58	65
E4	8801	67	65	56							67	65	56	63
E4	8801							66	64	55	66	64	55	62
E8	8414				75	73	64				75	73	64	71
E8	8414	69	67	58	69	67	58	69	67	58	74	72	63	65
E12	43				72	70	61				72	70	61	68
E12	43	70	68	59	70	68	59	70	68	59	75	73	64	66
E13	8605				78	76	67				78	76	67	74
E13	8605	71	69	60	71	69	60	71	69	60	75	73	64	67
E13	8605	70	68	59	78	76	67	71	69	60	79	77	68	74

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 6 816745 830616

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	76	76 76																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	65	65 65																																															
Concrete Batching Plant	61	61 61																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	56	56 56																																															
Yuen Long Highway Widening	75	75 75																																															
<b>Cumulative Impact from Fixed Sites</b>		76 76 76 76 76 76 76 79 77 77 77 77 77 77 77 77 77 77 77 77 77 77 77 77 76 76 76 76 76 76																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	64	64 64																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	45	45 45																																															
Concrete Batching Plant	42	42 42																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	36	36 36																																															
Yuen Long Highway Widening	56	56 56																																															
<b>Cumulative Impact from Fixed Sites</b>		64 64 64 64 64 64 64 65 64																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8504 816913 830481

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	73	[Noise Level 73]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	65 60	[Noise Level 65]																																															
Work Sites Near HSK-NDA Area Precasting Yard	55	[Noise Level 55]																																															
<b>Cumulative Impact from Fixed Sites</b>		73	73	73	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	73						

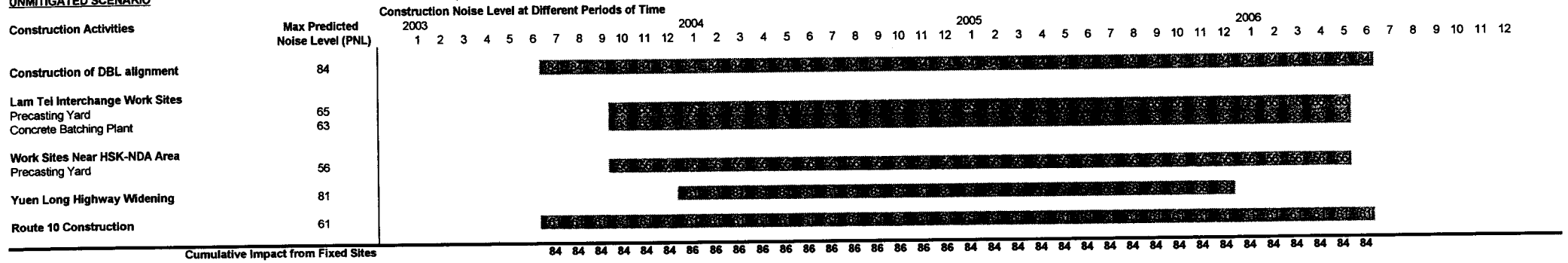
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	61	[Noise Level 61]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	45 41	[Noise Level 45]																																															
Work Sites Near HSK-NDA Area Precasting Yard	35	[Noise Level 35]																																															
<b>Cumulative Impact from Fixed Sites</b>		61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61				

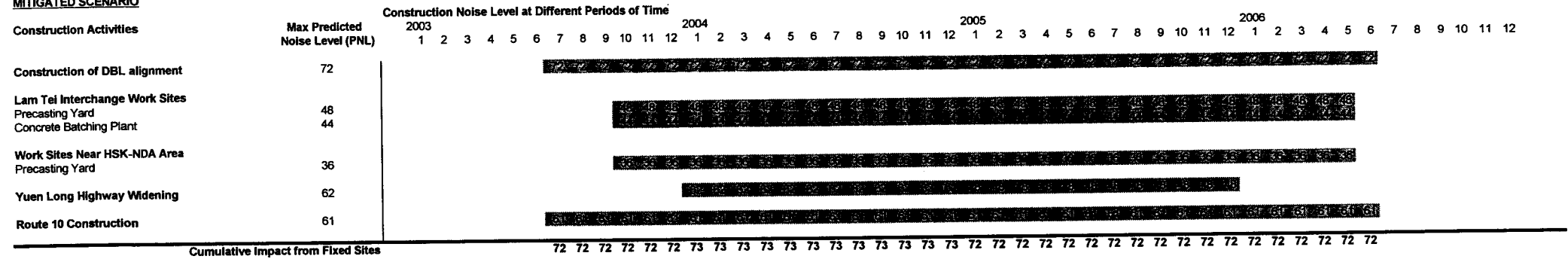
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 76 816985 830679

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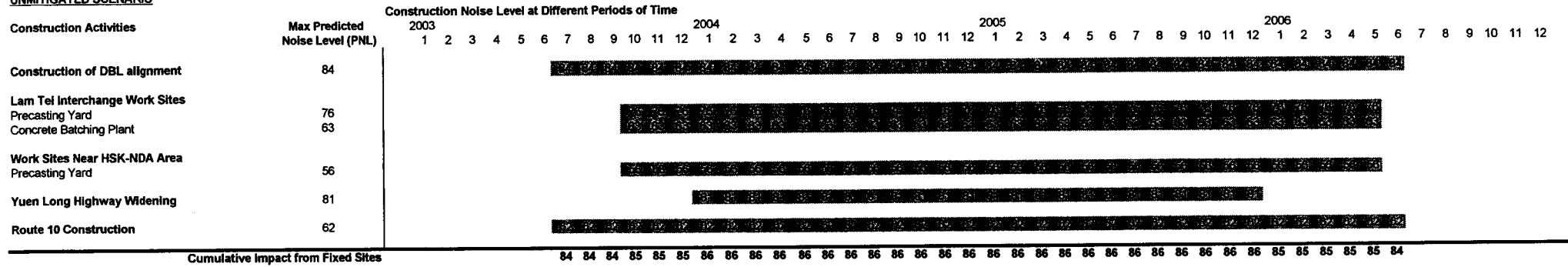
**MITIGATED SCENARIO**



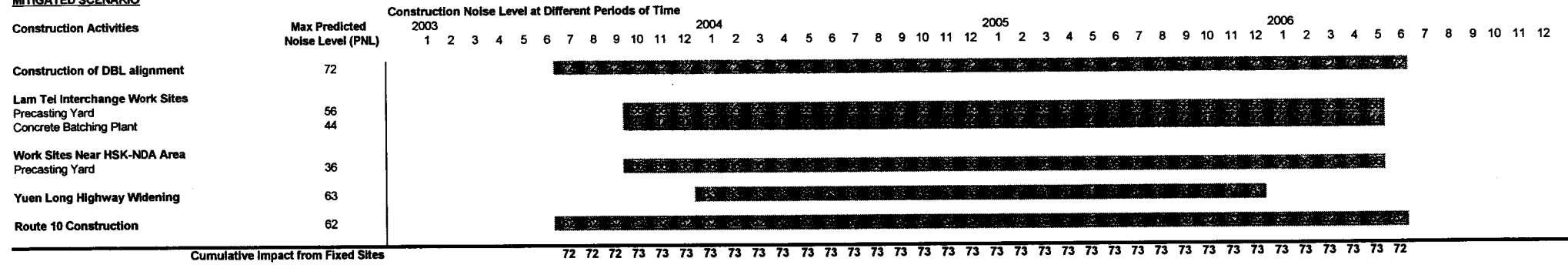
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 10 817317 830934

**UNMITIGATED SCENARIO**



**MITIGATED SCENARIO**









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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 94 817850 831680

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																																	
		2003												2004												2005												2006													
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12		
Construction of DBL alignment	77																																																		
Lam Tei Interchange Work Sites																																																			
Precasting Yard	62																																																		
Concrete Batching Plant	54																																																		
Work Sites Near HSK-NDA Area																																																			
Precasting Yard	56																																																		
Yuen Long Highway Widening	82																																																		
<b>Cumulative Impact from Fixed Sites</b>																																																			
		77	77	77	77	77	77	77	77	77	77	77	77	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	77	77	77	77	77	77	77	77	77	77	77	77

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																																	
		2003												2004												2005												2006													
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12		
Construction of DBL alignment	65																																																		
Lam Tei Interchange Work Sites																																																			
Precasting Yard	42																																																		
Concrete Batching Plant	35																																																		
Work Sites Near HSK-NDA Area																																																			
Precasting Yard	36																																																		
Yuen Long Highway Widening	63																																																		
<b>Cumulative Impact from Fixed Sites</b>																																																			
		65	65	65	65	65	65	65	65	65	65	65	65	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	65	65	65	65	65	65	65	65	65	65	65	65	

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8808 817372 831272

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	87	87																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	73 61	73																																															
Work Sites Near HSK-NDA Area Precasting Yard	57	57																																															
Yuen Long Highway Widening	82	82																																															
<b>Cumulative Impact from Fixed Sites</b>		87 87 87 87 87 87 87 88 87 87 87 87 87 87																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	75	75																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	53 42	53																																															
Work Sites Near HSK-NDA Area Precasting Yard	37	37																																															
Yuen Long Highway Widening	63	63																																															
<b>Cumulative Impact from Fixed Sites</b>		75 75																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8425 816667 830974

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	77	77																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	66	66																																															
Concrete Batching Plant	66	66																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	58	58																																															
Cumulative Impact from Fixed Sites		77 77 77 78 77																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	65	65																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	46	46																																															
Concrete Batching Plant	47	47																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	38	38																																															
Cumulative Impact from Fixed Sites		65 65																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 40 816509 830728

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																																	
		2003												2004												2005												2006													
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12		
Construction of DBL alignment	70																																																		
Lam Tei Interchange Work Sites	63																																																		
Precasting Yard	60																																																		
Concrete Batching Plant	60																																																		
Work Sites Near HSK-NDA Area	57																																																		
Precasting Yard	57																																																		
Yuen Long Highway Widening	85																																																		
<b>Cumulative Impact from Fixed Sites</b>		70												70												71												71													

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																																	
		2003												2004												2005												2006													
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12		
Construction of DBL alignment	58																																																		
Lam Tei Interchange Work Sites	43																																																		
Precasting Yard	41																																																		
Concrete Batching Plant	41																																																		
Work Sites Near HSK-NDA Area	37																																																		
Precasting Yard	37																																																		
Yuen Long Highway Widening	66																																																		
<b>Cumulative Impact from Fixed Sites</b>		58												58												58												58													

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 42 816885 830970

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	81	[Noise Level 81]																																															
Lam Tei Interchange Work Sites		[Noise Level 71-75]																																															
Precasting Yard	71	[Noise Level 71-75]																																															
Concrete Batching Plant	75	[Noise Level 71-75]																																															
Work Sites Near HSK-NDA Area		[Noise Level 58]																																															
Precasting Yard	58	[Noise Level 58]																																															
Yuen Long Highway Widening	74	[Noise Level 74]																																															
<b>Cumulative Impact from Fixed Sites</b>		81 81 81 82 82 82 83 82 81																																															

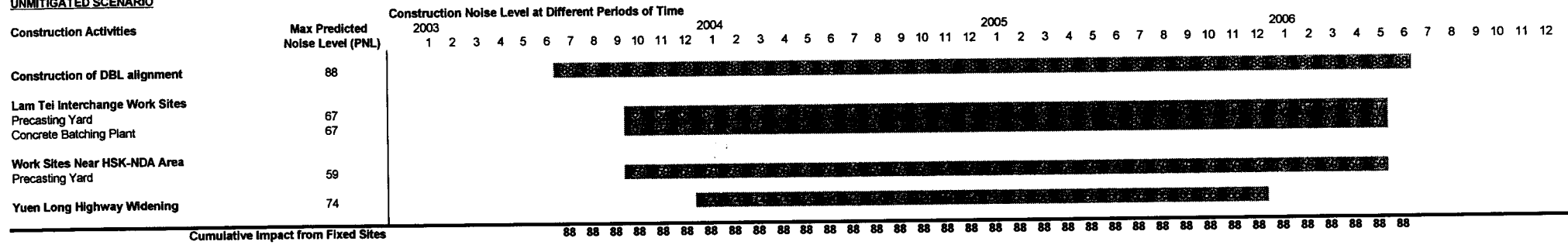
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	69	[Noise Level 69]																																															
Lam Tei Interchange Work Sites		[Noise Level 51-56]																																															
Precasting Yard	51	[Noise Level 51-56]																																															
Concrete Batching Plant	56	[Noise Level 51-56]																																															
Work Sites Near HSK-NDA Area		[Noise Level 38]																																															
Precasting Yard	38	[Noise Level 38]																																															
Yuen Long Highway Widening	55	[Noise Level 55]																																															
<b>Cumulative Impact from Fixed Sites</b>		69 69																																															

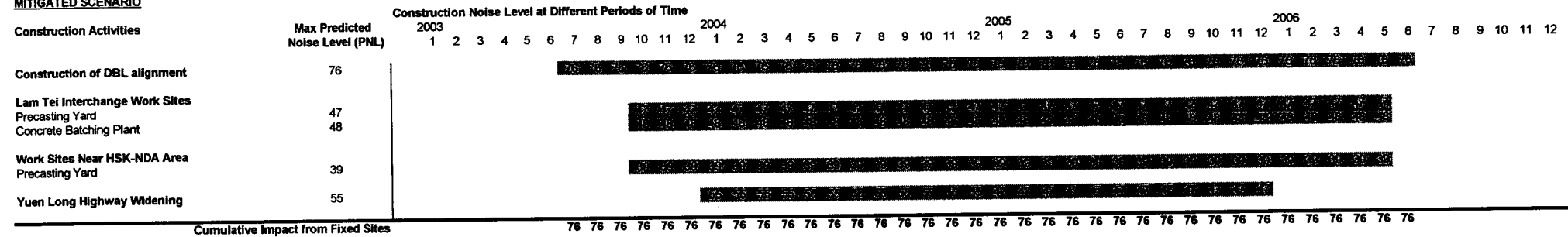
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8414 816709 831129

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8427 816732 830764

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	77	77																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	66 64	78																																															
Work Sites Near HSK-NDA Area Precasting Yard	57	79																																															
Yuen Long Highway Widening	74	79																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>77 77 77 78 78 78 79 79 79 79 79 79 79 79 79 79 79 79 79 79 79 79 79 79 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 77</b>																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	65	65																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	46 45	66																																															
Work Sites Near HSK-NDA Area Precasting Yard	37	66																																															
Yuen Long Highway Widening	55	66																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>65 65 65 65 65 65 66 66 66 66 66 66 66 66 66 66 66 66 66 66 66 66 66 66 65</b>																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8407 816449 831119

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	73	73																																															
Lam Tei Interchange Work Sites Precasting Yard	63	63																																															
Concrete Batching Plant	61	61																																															
Work Sites Near HSK-NDA Area Precasting Yard	59	59																																															
<b>Cumulative impact from Fixed Sites</b>		73 73 73 74 73																																															

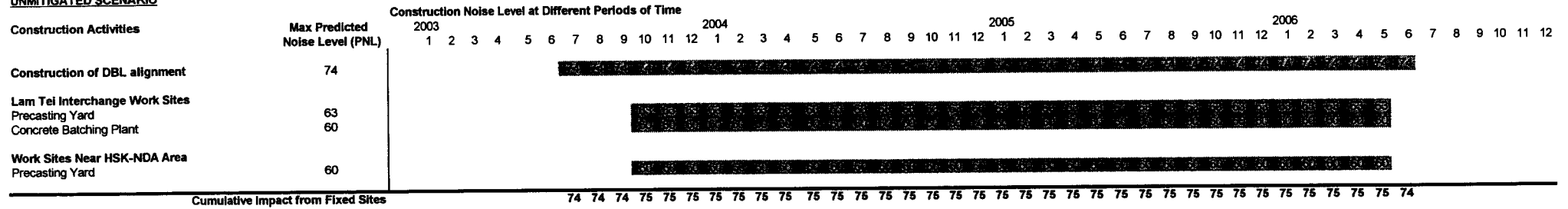
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	61	61																																															
Lam Tei Interchange Work Sites Precasting Yard	43	43																																															
Concrete Batching Plant	42	42																																															
Work Sites Near HSK-NDA Area Precasting Yard	39	39																																															
<b>Cumulative impact from Fixed Sites</b>		61 61																																															

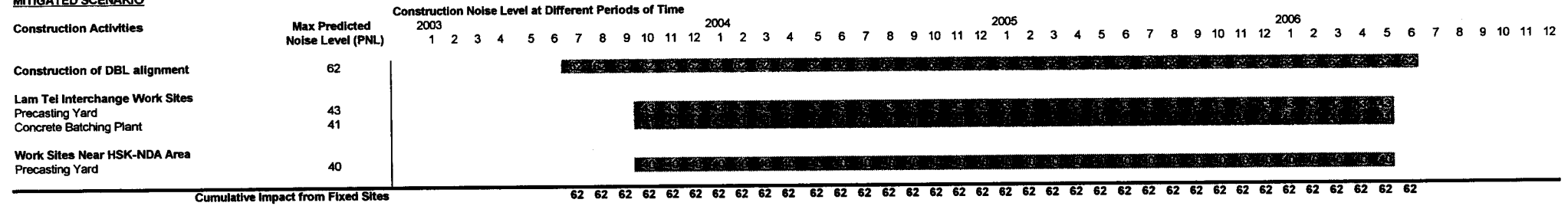


Assessment Point 8432 816401 831211

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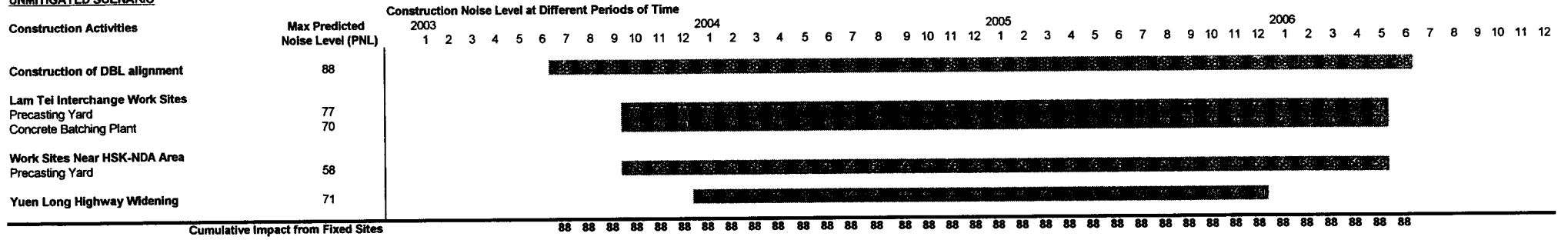
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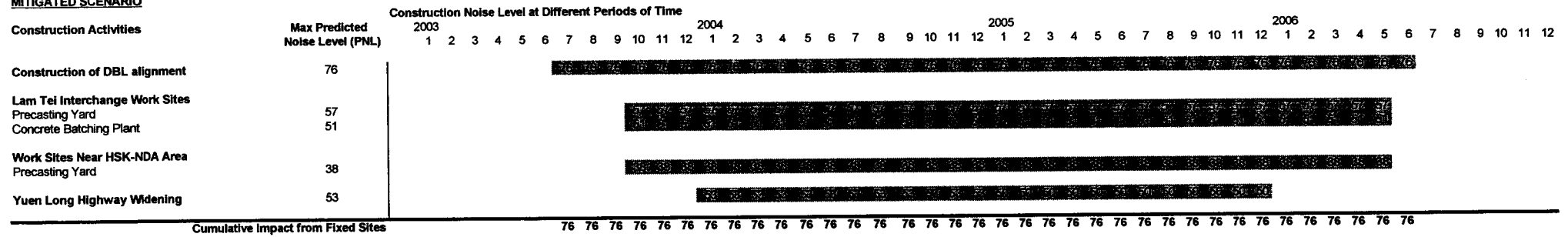
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 43 817065 831176

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point      45      816745      830616

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	84													84												84												84											
Lam Tei Interchange Work Sites Precasting Yard	71													84												84												84											
Concrete Batching Plant	61													84												84												84											
Work Sites Near HSK-NDA Area Precasting Yard	58													84												84												84											
Yuen Long Highway Widening	78													84												84												84											
Cumulative Impact from Fixed Sites		84												84												84												84											

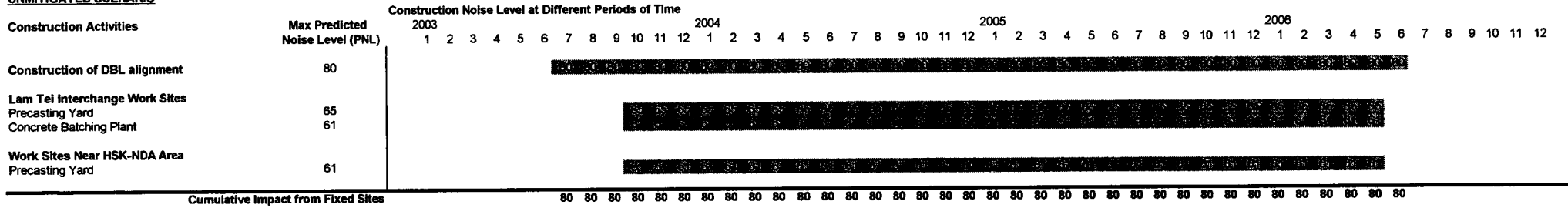
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	72													72												72												72											
Lam Tei Interchange Work Sites Precasting Yard	51													72												72												72											
Concrete Batching Plant	42													72												72												72											
Work Sites Near HSK-NDA Area Precasting Yard	38													72												72												72											
Yuen Long Highway Widening	59													72												72												72											
Cumulative Impact from Fixed Sites		72												72												72												72											

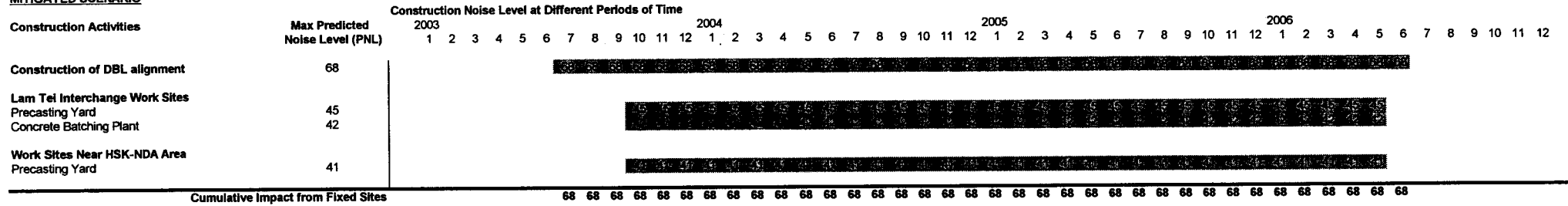
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8601 816667 831445

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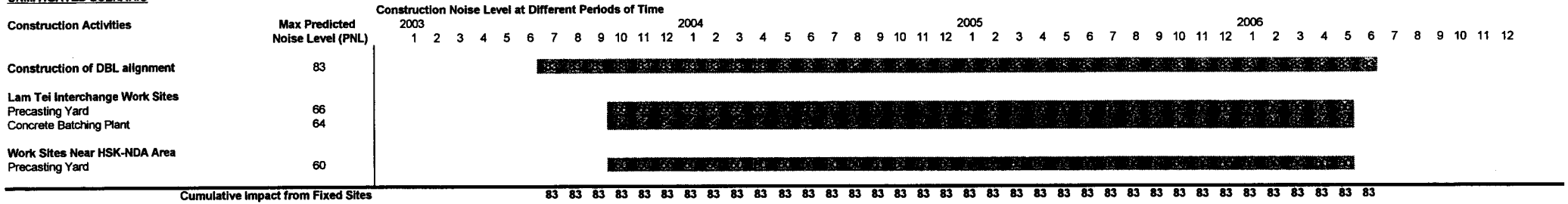




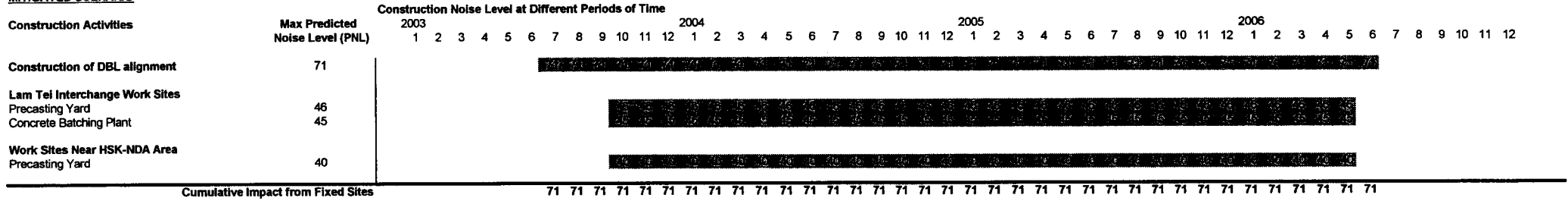
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8602 816703 831331

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8603 816834 831178

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	87	87																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	69 71	69																																															
Work Sites Near HSK-NDA Area Precasting Yard	59	59																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>87 87</b>																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	75	75																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	49 52	49																																															
Work Sites Near HSK-NDA Area Precasting Yard	39	39																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>75 75</b>																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8605 817006 831156

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	91	91																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	75	75																																															
Concrete Batching Plant	74	74																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	58	58																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>91 91</b>																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	79	79																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	55	55																																															
Concrete Batching Plant	55	55																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	38	38																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>79 79</b>																																															

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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8329 816252 831543

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	76	76																																															
Lam Tei Interchange Work Sites Precasting Yard	61	61																																															
Concrete Batching Plant	56	56																																															
Work Sites Near HSK-NDA Area Precasting Yard	63	63																																															
<b>Cumulative Impact from Fixed Sites</b>		76 76																																															

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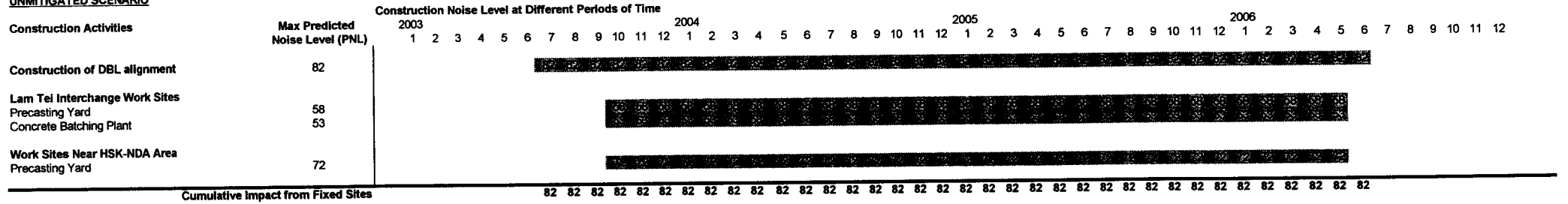
Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	64	64																																															
Lam Tei Interchange Work Sites Precasting Yard	41	41																																															
Concrete Batching Plant	37	37																																															
Work Sites Near HSK-NDA Area Precasting Yard	43	43																																															
<b>Cumulative Impact from Fixed Sites</b>		64 64																																															

Hung Shui Kiu NDA		Mitigation Level 3																																			
HSK NDA worst-case is Period 3																																					
Period 1	57																																				
Period 2	59																																				
Period 3	60	60 60																																			
Period 4	58																																				
Period 5	54																																				
Period 6	54																																				
Period 7	53																																				
Period 8	52																																				

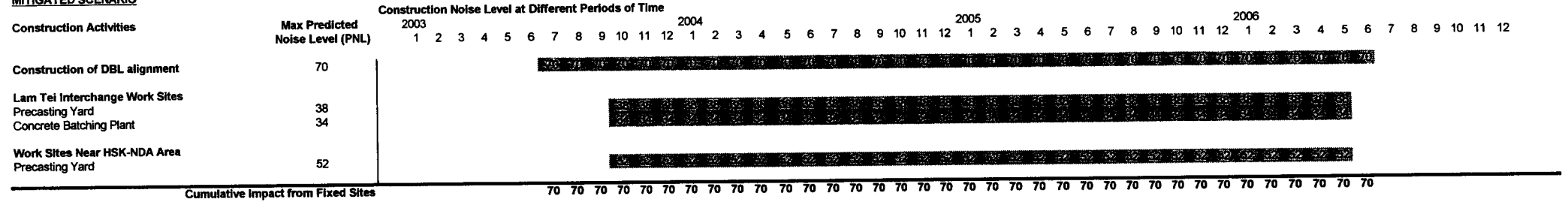
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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8302 816156 832080

**UNMITIGATED SCENARIO**



**MITIGATED SCENARIO**



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Assessment Point 8323 816271 831734

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	85	[Noise Level 85]																																															
Lam Tei Interchange Work Sites Precasting Yard	60	[Noise Level 60]																																															
Concrete Batching Plant	55	[Noise Level 55]																																															
Work Sites Near HSK-NDA Area Precasting Yard	66	[Noise Level 66]																																															
<b>Cumulative Impact from Fixed Sites</b>		85 85																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	73	[Noise Level 73]																																															
Lam Tei Interchange Work Sites Precasting Yard	40	[Noise Level 40]																																															
Concrete Batching Plant	36	[Noise Level 36]																																															
Work Sites Near HSK-NDA Area Precasting Yard	46	[Noise Level 46]																																															
<b>Cumulative Impact from Fixed Sites</b>		73 73																																															

Hung Shui Kiu NDA		Mitigation Level 3																																			
HSK NDA worst-case is Period 3																																					
Period 1	57																																				
Period 2	59																																				
Period 3	60	60 60																																			
Period 4	58																																				
Period 5	54																																				
Period 6	54																																				
Period 7	53																																				
Period 8	52																																				

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Assessment Point 8327 816377 831595

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	84	84																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	61	61																																															
Concrete Batching Plant	57	57																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	64	64																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>84 84</b>																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	72	72																																															
Lam Tei Interchange Work Sites																																																	
Precasting Yard	41	41																																															
Concrete Batching Plant	38	38																																															
Work Sites Near HSK-NDA Area																																																	
Precasting Yard	44	44																																															
<b>Cumulative Impact from Fixed Sites</b>		<b>72 72</b>																																															

Hung Shui Kiu NDA		Mitigation Level 3																																			
HSK NDA worst-case is Period 3																																					
Period 1	57	57																																			
Period 2	59	59																																			
Period 3	60	60																																			
Period 4	58	58																																			
Period 5	54	54																																			
Period 6	54	54																																			
Period 7	53	53																																			
Period 8	52	52																																			

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Assessment Point 8613 816849 831546

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	72	[Redacted]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	66 61	[Redacted]																																															
Work Sites Near HSK-NDA Area Precasting Yard	61	[Redacted]																																															
<b>Cumulative Impact from Fixed Sites</b>		72 72 72 73 72																																															

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	60	[Redacted]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	46 42	[Redacted]																																															
Work Sites Near HSK-NDA Area Precasting Yard	41	[Redacted]																																															
<b>Cumulative Impact from Fixed Sites</b>		60 60																																															



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Assessment Point 8704 817474 831632

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	76	[Redacted]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	65 57	[Redacted]																																															
Work Sites Near HSK-NDA Area Precasting Yard	58	[Redacted]																																															
<b>Cumulative Impact from Fixed Sites</b>		76 76																																															

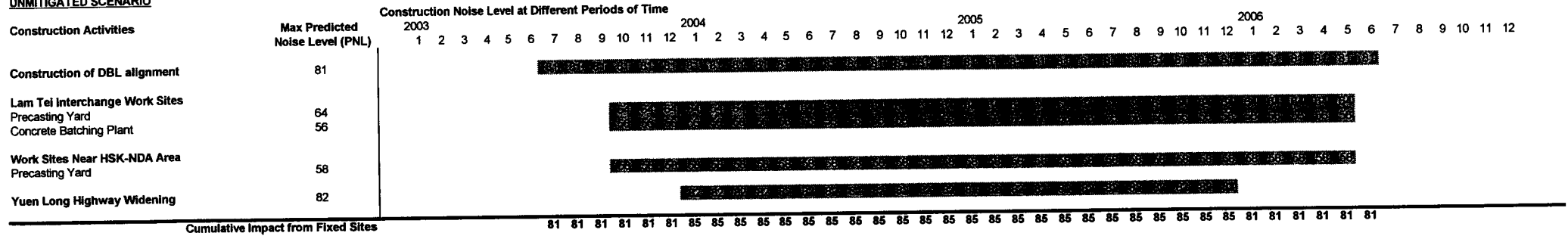
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	64	[Redacted]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	45 38	[Redacted]																																															
Work Sites Near HSK-NDA Area Precasting Yard	38	[Redacted]																																															
<b>Cumulative Impact from Fixed Sites</b>		64 64																																															

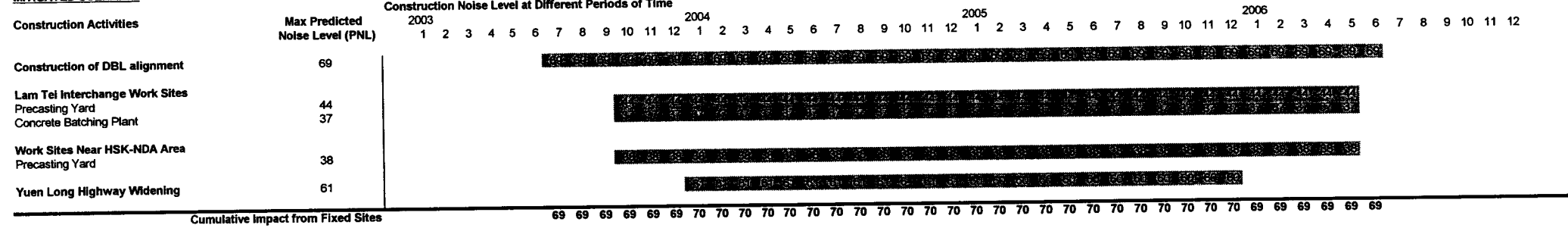
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Assessment Point 96 817592 831680

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**MITIGATED SCENARIO**





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Assessment Point 8725 817809 831927

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	71	71																																															
Lam Tei Interchange Work Sites		72																																															
Precasting Yard	61	72																																															
Concrete Batching Plant	53	72																																															
Work Sites Near HSK-NDA Area		72																																															
Precasting Yard	57	72																																															
<b>Cumulative Impact from Fixed Sites</b>		71 71 71 72 71																																															

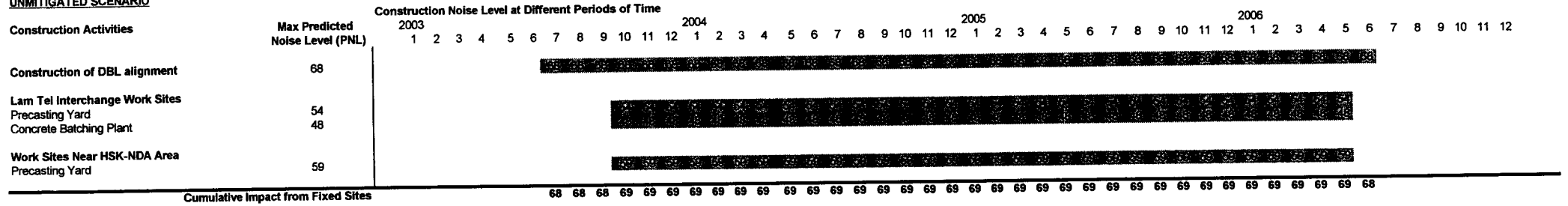
**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	59	59																																															
Lam Tei Interchange Work Sites		59																																															
Precasting Yard	41	59																																															
Concrete Batching Plant	34	59																																															
Work Sites Near HSK-NDA Area		59																																															
Precasting Yard	37	59																																															
<b>Cumulative Impact from Fixed Sites</b>		59 59																																															

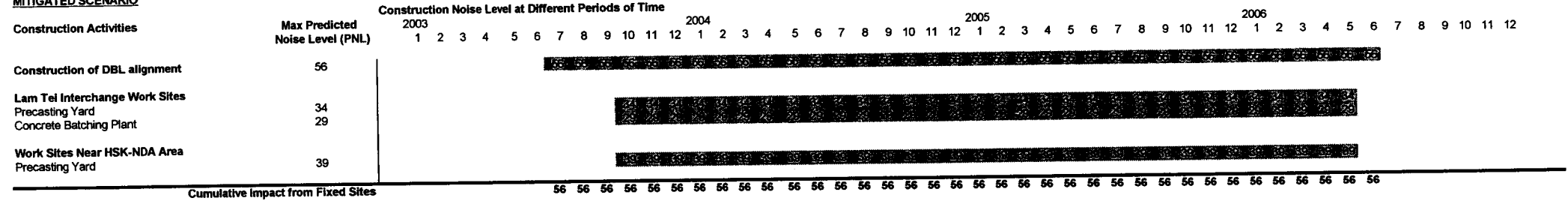
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 Table 3A.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point     8721     816958     833413

**UNMITIGATED SCENARIO**



**MITIGATED SCENARIO**



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 Table 3A2.6 Predicted Noise Levels for All Construction Activities in the Programme

Assessment Point 8918 816610 830444

**UNMITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	69	[Noise Level 69]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	62 58	[Noise Level 62]																																															
Work Sites Near HSK-NDA Area Precasting Yard	55	[Noise Level 55]																																															
<b>Cumulative Impact from Fixed Sites</b>		69	69	69	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	70	70	70	70	70	70	70	70	70	69						

**MITIGATED SCENARIO**

Construction Activities	Max Predicted Noise Level (PNL)	Construction Noise Level at Different Periods of Time																																															
		2003												2004												2005												2006											
		1	2	3	4	5	6	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	12	1	2	3	4	5	6	7	8	9	10	11	12
Construction of DBL alignment	57	[Noise Level 57]																																															
Lam Tei Interchange Work Sites Precasting Yard Concrete Batching Plant	42 39	[Noise Level 42]																																															
Work Sites Near HSK-NDA Area Precasting Yard	35	[Noise Level 35]																																															
<b>Cumulative Impact from Fixed Sites</b>		57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57					

**ASSESSMENT OF UNAVOIDABLE NIGHT TIME SEGMENT LAUNCHING**

**Plant Inventory for Unavoidable Segment Launching during Night-time**

Bridge	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for temporary noise barriers	
				CNP No.	SWL	SWL	SWL		
Superstructure	Segmental Launching	Gantry Girder, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	0	99
		Crane, mobile	1	CNP048	112	Tab C.7 Ref no.118	99	-5	94
		Lorry	1	CNP141	112	Tab C.8 Ref no.25	96	-5	91
		Generator	1	CNP102	100	Tab C.7 Ref no.54	89	-10	79
		TOTAL		117		TOTAL	103	TOTAL	101

**Area Sensitive Rating**

According to the GW-TM, the Area Sensitivity Ratings (ASRs) for NSRs should generally be "A"  
 Although the NSRs are located proximity to West Rail, Castle Peak Road and Yuen Long Highway,  
 by the time of night work, these influencing factors are likely closed as for the segment launching to proceed.

The Basic Noise Levels (BNLs ) should be  
 All days during the night-time (2300 to 0700) is 45 dB(A)

	UNMITIGATED	MITIGATION LEVEL 1 Quiet Plant BS5228	MITIGATION LEVEL 2 Correction for temporary noise barriers
Estimation of buffer distance required to meet 45 dB(A) criterion at NSRs	2239 m	447 m	355 m
<b>Estimated Noise Level at NSR at Different Distance Away from the Night Work</b>			
Noise Level for NSR at 20 m	86 dB(A)	72 dB(A)	70 dB(A)
Noise Level for NSR at 50 m	78 dB(A)	64 dB(A)	62 dB(A)
Noise Level for NSR at 100 m	72 dB(A)	58 dB(A)	56 dB(A)
Noise Level for NSR at 150 m	68 dB(A)	54 dB(A)	52 dB(A)
Noise Level for NSR at 200 m	66 dB(A)	52 dB(A)	50 dB(A)
Noise Level for NSR at 300 m	62 dB(A)	48 dB(A)	46 dB(A)
Noise Limit	45 dB(A)	45 dB(A)	45 dB(A)





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**Appendix 3A - Construction Noise Assessment**

**Table 3A3.2 Noise Sensitive Receivers and Representative Assessment Points**

<b>Noise Sensitive Receivers</b>	<b>Representative Assessment Points</b>	<b>Coordinates</b>	
		<b>E</b>	<b>N</b>
Rural/village houses at Ngau Hom Shek	8004	815430	835131
Rural/village houses at Ngau Hom Shek	8010	815297	835020
Rural/village houses at Ngau Hom Shek	8016	815243	834922
Rural/village houses at Ngau Hom Shek	8025	815072	834912

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.3 Notional Noise Sources for Assessment of Construction Noise at Ngau Hom Shek**

<b>Alignment</b>	<b>Closest 3 pier pairs</b>	<b>NNS</b>	<b>Coordinates</b>	
			<b>Easting</b>	<b>Northing</b>
SWC alignment	SWC Pier 1	SWC-A	815201	835053
	SWC Pier 2	SWC-B	815159	835114
	SWC Pier 3	SWC-C	815117	835176
DBL alignment within SWC Work Site	WA Pier 1	WA-1	815243	834993
	WA Pier 2	WA-2	815286	834932
	WA Pier 3	WA-3	815329	834871
DBL alignment	DBL Pier 1	DBL-A	815376	834813
	DBL Pier 2	DBL-B	815416	834771
	DBL Pier 3	DBL-C	815522	834702
SWC Work Site	WA Pier 3	WA-3	815286	834932

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 Table 3A3.4.1 Inventory of Powered Mechanical Equipment for Construction Activities at SWC Alignment

PME Inventory for one Working Unit  
 i.e. one pair of bridge piers

Construction Activity 1 - SWC Shore Alignment Construction  
 Construction Equipment Used within 500m from the Shoreline

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228	
			CNP No.	SWL		SWL
<b>Construction of Temporary Access Bridge on Shallow Water</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Lorry	1	CNP 141	112	Table C.8 Ref No.25	96
	Driven Piling Rig	1	CNP 165	115	n/a	115
	Barge	1	CNP 061	104	n/a	104
			TOTAL	118	TOTAL	115
			Buffer distance (m)	79	Buffer distance (m)	56
<b>Construction of Cofferdam</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Vibrator	1	CNP170	113	Table C.6 Ref No. 20	102
	Lorry	1	CNP 141	112	Table C.8 Ref No.25	96
			TOTAL	117	TOTAL	104
			Buffer distance (m)	71	Buffer distance (m)	16
<b>Construction of Piles</b>						
	Bored Piling Rig	2	CNP 166	100	n/a	100
	Mobile Crane	1	CNP048	112	Table C.7 Ref No.118	99
			TOTAL	113	TOTAL	104
			Buffer distance (m)	45	Buffer distance (m)	16
<b>Construction of Pilecaps</b>						
	Concrete Pump	1	CNP047	109	Table C.6 Ref. No. 36	106
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96
	Lorry	1	CNP141	112	Table C.8 Ref No.25	96
	Water Pump	2	CNP 282	103	Table C.7 Ref. No. 68	94
	Generator	1	CNP101	108	Table C.7 Ref No.54	89
	Compressor	1	CNP 002	102	CNP 001	100
			TOTAL	116	TOTAL	108
			Buffer distance (m)	63	Buffer distance (m)	25
<b>Construction of Bridge Columns</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Compressor	1	CNP 002	102	CNP 001	100
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89
	Concrete Pump	1	CNP 047	109	Table C.6 Ref. No. 36	106
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
			TOTAL	119	TOTAL	109
			Buffer distance (m)	89	Buffer distance (m)	28
<b>Erection of Deck Travellers</b>						
	Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Winch	1	CNP 261	110	CNP 263	102
			TOTAL	114	TOTAL	104
			Buffer distance (m)	50	Buffer distance (m)	16
<b>Construction of Bridge Deck</b>						
	Deck Traveller	2	n/a		n/a	
	Barge	1	CNP 061	104	n/a	104
	Tugboat	1	CNP 221	110	n/a	110
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
	Track-mounted Crane	2	CNP 048	112	Table C.7 Ref No.118	99
	Compressor for Prestressing	2	CNP 002	102	CNP 001	100
	Truck	1	CNP 067	117	Table C.3 Ref. No. 52	109
			TOTAL	120	TOTAL	114
			Buffer distance (m)	100	Buffer distance (m)	50
<b>Road Construction and Paving</b>						
	Lorry	2	CNP 141	112	Table C.8 Ref No.25	96
	Road Roller	2	CNP 185	108	Table C.8 Ref. No. 30	101
	Concrete Mixer Truck	2	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
	Asphalt Paver	2	CNP 004	109	Table C.8 Ref. No. 24	101
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
			TOTAL	121	TOTAL	109
			Buffer distance (m)	112	Buffer distance (m)	28
<b>Landscaping</b>						
	Excavator	1	CNP 081	112	Table C.3 Ref. No. 40	108
	Loader	1	BS5228Table3Ref.No. 97	105	Table C.3 Ref. No. 97	105
	Lorry	1	CNP 141	112	Table C.8 Ref No.25	96
			TOTAL	115	TOTAL	110
			Buffer distance (m)	56	Buffer distance (m)	32

SWL : Sound Power Level in dB

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 Table 3A3.4.2 Inventory of Powered Mechanical Equipment for Construction Activities at DBL Alignment

PME Inventory for one Working Unit  
 i.e. one pair of bridge piers

**Construction Activity 2 - DBL Alignment Construction**

Located at the temporary work site, to be construction at the last phase after work site demolished

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding purpose-built	
			CNP No.	SWL	SWL	SWL	Buffer distance (m)	SWL
<b>Construction of Piles</b>								
	Bored Piling Rig	2	CNP 166	100	n/a	100	-10	90
	Mobile Crane	1	CNP048	112	Table C.7 Ref No.118	99	-5	94
			TOTAL	113	TOTAL	104	TOTAL	97
			Buffer distance (m)	45	Buffer distance (m)	16	Buffer distance (m)	7
<b>Construction of Pilecaps</b>								
	Concrete Pump	1	CNP047	109	Table C.6 Ref. No. 36	106	-10	96
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96	-10	86
	Lorry	1	CNP141	112	Table C.8 Ref No.25	96	-5	91
	Water Pump	2	CNP 282	103	Table C.7 Ref. No. 68	94	-10	84
	Generator	1	CNP101	108	Table C.7 Ref.No.54	89	-10	79
	Compressor	1	CNP 002	102	CNP 001	100	-10	90
			TOTAL	116	TOTAL	108	TOTAL	99
			Buffer distance (m)	63	Buffer distance (m)	25	Buffer distance (m)	9
<b>Construction of Bridge Columns</b>								
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99	-5	94
	Compressor	1	CNP 002	102	CNP 001	100	-10	90
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89	-10	79
	Concrete Pump	1	CNP 047	109	Table C.6 Ref. No. 36	106	-10	96
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96	-10	86
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98	-5	93
			TOTAL	119	TOTAL	109	TOTAL	101
			Buffer distance (m)	89	Buffer distance (m)	28	Buffer distance (m)	11
<b>Erection of Deck Travellers</b>								
	Crane	1	CNP 048	112	Table C.7 Ref No.118	99		99
	Winch	1	CNP 261	110	CNP 263	102		102
			TOTAL	114	TOTAL	104	TOTAL	104
			Buffer distance (m)	50	Buffer distance (m)	16	Buffer distance (m)	16
<b>Construction of Bridge Deck</b>								
	Deck Traveller	2	n/a		n/a			
	Generator	2	CNP 101	108	Tab C.7 Ref No.54	89		89
	Track-mounted Crane	2	CNP 048	112	Table C.7 Ref No.118	99		102
	Compressor for Prestressing	2	CNP 002	102	CNP 001	100		100
	Truck	1	CNP 067	117	Table C.3 Ref. No. 52	109		109
			TOTAL	120	TOTAL	111	TOTAL	111
			Buffer distance (m)	100	Buffer distance (m)	35	Buffer distance (m)	35
<b>Road Construction and Paving</b>								
	Lorry	2	CNP 141	112	Table C.8 Ref No.25	96		96
	Road Roller	2	CNP 185	108	Table C.8 Ref. No. 30	101		101
	Concrete Mixer Truck	2	CNP044	109	Table C.6 Ref. No. 33	96		96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98		98
	Asphalt Paver	2	CNP 004	109	Table C.8 Ref. No. 24	101		101
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89		89
			TOTAL	121	TOTAL	109	TOTAL	109
			Buffer distance (m)	112	Buffer distance (m)	28	Buffer distance (m)	28
<b>Landscaping</b>								
	Excavator	1	CNP 081	112	Table C.3 Ref. No. 40	108		108
	Loader	1	BS5228Table3Ref.No. 97	105	Table C.3 Ref. No. 97	105		105
	Lorry	1	CNP 141	112	Table C.8 Ref No.25	96		96
			TOTAL	115	TOTAL	110	TOTAL	110
			Buffer distance (m)	56	Buffer distance (m)	32	Buffer distance (m)	32

SWL : Sound Power Level in dB

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 Table 3A3.4.3 Inventory of Powered Mechanical Equipment for Construction Activities at DBL Alignment

Construction Activity 3 - DBL Alignment Construction  
 Construction of Bridge - Segmental Method  
 Equipment for one pair of piers

Bridge	Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding purpose-built		
				CNP No.	SWL		SWL		SWL	
<b>Segmental Construction</b>										
<i>Piling</i>	<i>Excavation</i>	Crane, mobile	1	CNP048	112	Table C.7 Ref No.118	99	-5	94	
		Large diameter bored, oscillatory/grab & chise	2	CNP164/165	115	n/a	115	-10	105	
		Excavator	1	CNP081	112	Table C.3 Ref. No. 40	108	-10	98	
		Dump truck	1	CNP067	117	Table C.3 Ref. No. 52	109	-5	104	
		Air compressor	1	CNP002	102	CNP 001	100	-10	90	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
		Water pump	2	CNP282	103	Table C.7 Ref. No. 68	94	-10	84	
		Breaker	1	CNP025	111	n/a	111	-10	101	
		TOTAL			122		120		TOTAL	110
			Buffer distance (m)		126		100		Buffer distance (m)	32
	<i>Concreting</i>	Crane, mobile	1	CNP048	112	Table C.7 Ref No.118	99	-5	94	
		Large diameter bored, oscillatory/grab & chise	1	CNP164/165	115	n/a	115	-10	105	
		Concrete lorry mixer	1	CNP044	109	Table C.6 Ref. No. 33	96	-10	86	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
		Water Pump	1	CNP282	103	Table C.7 Ref. No. 68	94	-10	84	
TOTAL				118		115		TOTAL	105	
Buffer distance (m)				79		56		Buffer distance (m)	18	
<i>Pile Cap</i>	<i>Excavation</i>	Air compressor	1	CNP002	102	CNP 001	100	-10	90	
		Breaker, hand held	2	CNP023	108	n/a	108	-10	98	
		Excavator	1	CNP081	112	Table C.3 Ref. No. 40	108	-10	98	
		Dump truck	1	CNP067	117	Table C.3 Ref. No. 52	109	-5	104	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
		Water pump	2	CNP282	103	Table C.7 Ref. No. 68	94	-10	84	
		TOTAL			119		115		TOTAL	107
		Buffer distance (m)			89		56		Buffer distance (m)	22
		<i>Concreting</i>	Crane, mobile	1	CNP048	112	Table C.7 Ref No.118	99	-5	94
	Concrete lorry mixer		1	CNP044	109	Table C.6 Ref. No. 33	96	-10	86	
	Generator		1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
	Poker, vibratory, hand held		2	CNP170	113	Table C.6 Ref. No. 40	98	-5	93	
	TOTAL				118		104		TOTAL	98
	Buffer distance (m)				79		16		Buffer distance (m)	8
	<i>Pier</i>	<i>Temporary Works</i>	Crane, mobile	2	CNP048	112	Table C.7 Ref No.118	99	-5	94
Generator			1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
TOTAL					115		102		TOTAL	97
			Buffer distance (m)		56		13		Buffer distance (m)	7
<i>Concreting</i>		Concrete pump, stationary	1	CNP047	109	Table C.6 Ref. No. 36	106	-10	96	
		Concrete lorry mixer	1	CNP044	109	Table C.6 Ref. No. 33	96	-10	86	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89	-10	79	
		Poker, vibratory, hand held	2	CNP170	113	Table C.6 Ref. No. 40	98	-5	93	
		TOTAL			118		108		TOTAL	99
		Buffer distance (m)			79		25		Buffer distance (m)	9
<i>Superstructure</i>		<i>Segmental Launching</i>	Gantry Girder, mobile	1	CNP048	112	Table C.7 Ref No.112	102		102
			Crane, mobile	1	CNP048	112	Table C.7 Ref No.118	99		99
			Lorry	1	CNP141	112	Table C.8 Ref No.25	96		96
			Generator	1	CNP102	100	Table C.7 Ref No.54	89		89
			TOTAL			117		105		TOTAL
			Buffer distance (m)		71		18		Buffer distance (m)	18
	<i>Fabrication yard</i>	Concrete lorry mixer	1	CNP044	109	Table C.6 Ref. No. 33	96		96	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89		89	
		Compressor	1	CNP002	102	CNP001	100		100	
		Lorry	1	CNP141	112	Table C.8 Ref No.25	96		96	
		TOTAL			114		103		TOTAL	103
			Buffer distance (m)		50		14		Buffer distance (m)	14
	<i>Noise Barriers</i>	Crane, mobile	1	CNP048	112	Table C.7 Ref No.118	99		99	
		Generator	1	CNP102	100	Table C.7 Ref No.54	89		89	
		Lorry	1	CNP141	112	Table C.8 Ref No.25	96		96	
TOTAL				115		101		TOTAL	101	
Buffer distance (m)				56		11		Buffer distance (m)	11	

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 Table 3A3.4.4 Inventory of Powered Mechanical Equipment for Construction Activities at SWC Alignment

Construction Activity 4 - SWC Work Site - Site Preparation

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228		MITIGATION LEVEL 2 Correction for site hoarding purpose-built	
			CNP No.	SWL		SWL		SWL
<i>Site Preparation</i>								
	Compressor	2	CNP 002	102	CNP 001	100	-10	90
	Excavator	1	CNP 081	112	Table C.3 Ref. No. 40	108	-10	98
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89	-10	79
	Bulldozer/Ripper	2	CNP 030	115	n/a	115	-5	110
	Lorry	2	CNP 141	112	Table C.8 Ref No.25	96	-5	91
	Scraper	1	CNP 204	119	Table C.9 Ref. No. 16	108	-5	103
	Loader	1	BS5228Table3Ref.No. 97	105	Table C.3 Ref. No. 97	105	-10	95
	Motor Grader	1	CNP 104	113	Table C.9 Ref. No. 11	110	-5	105
			TOTAL	123	TOTAL	120	TOTAL	114
			Buffer distance (m)	141	Buffer distance (m)	100	Buffer distance (m)	50

SWL : Sound Power Level in dB

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**Table 3A3.4.6 Inventory of Powered Mechanical Equipment for Construction Activities at SWC Alignment**

**Construction Activity 5 - Construction of Haul Road**

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228	
			CNP No.	SWL		SWL
<i>Construction of Haul Road</i>						
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
	Excavator	1	CNP 081	112	Table C.3 Ref. No. 40	108
	Lorry	1	CNP 141	112	Table C.8 Ref No.25	96
	Compressor	1	CNP 002	102	CNP 001	100
			TOTAL	119	TOTAL	110
			Buffer distance (m)	89	Buffer distance (m)	32

SWL : Sound Power Level in dB

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 Table 3A3.4.6 Inventory of Powered Mechanical Equipment for Construction Activities at SWC Alignment

PME Inventory for one Working Unit  
 i.e. one pair of bridge piers

Construction Activity 7 - SWC Shore Alignment Construction (500m offshore, Intertidal Area 2)

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228	
			CNP No.	SWL		SWL
<b>Construction of Temporary Access Bridge on Shallow Water</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Lorry	1	CNP 141	112	Table C.8 Ref. No. 25	96
	Driven Piling Rig	1	CNP 165	115	n/a	115
			TOTAL	118	TOTAL	115
			Buffer distance (m)	79	Buffer distance (m)	56
<b>Construction of Cofferdam</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Vibrator	1	CNP170	113	Table C.9 Ref No. 20	102
	Lorry	1	CNP 141	112	Table C.8 Ref. No. 25	96
			TOTAL	117	TOTAL	104
			Buffer distance (m)	71	Buffer distance (m)	16
<b>Construction of Piles</b>						
	Bored Piling Rig	2	CNP 166	100	n/a	100
	Mobile Crane	1	CNP048	112	Table C.7 Ref No.118	99
			TOTAL	113	TOTAL	104
			Buffer distance (m)	45	Buffer distance (m)	16
<b>Construction of Pilecaps</b>						
	Concrete Pump	1	CNP047	109	Table C.6 Ref. No. 36	106
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96
	Lorry	1	CNP141	112	Table C.8 Ref. No. 25	96
	Water Pump	2	CNP 282	103	Table C.7 Ref. No. 68	94
	Generator	1	CNP101	108	Table C.7 Ref No.54	89
	Compressor	1	CNP 002	102	CNP 001	100
			TOTAL	116	TOTAL	108
			Buffer distance (m)	63	Buffer distance (m)	25
<b>Construction of Bridge Columns</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Compressor	1	CNP 002	102	CNP 001	100
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89
	Concrete Pump	1	CNP 047	109	Table C.6 Ref. No. 36	106
	Concrete Mixer Truck	1	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
			TOTAL	119	TOTAL	109
			Buffer distance (m)	89	Buffer distance (m)	28
<b>Erection of Deck Travellers</b>						
	Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Winch	1	CNP 261	110	CNP 263	102
			TOTAL	114	TOTAL	104
			Buffer distance (m)	50	Buffer distance (m)	16
<b>Construction of Bridge Deck</b>						
	Deck Traveller	2	n/a		n/a	
	Barge	1	CNP 061	104	n/a	104
	Tugboat	1	CNP 221	110	n/a	110
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
	Track-mounted Crane	2	CNP 048	112	Table C.7 Ref No.118	99
	Compressor for Prestressing Truck	2	CNP 002	102	CNP 001	100
		1	CNP 067	117	Table C.3 Ref. No. 52	109
			TOTAL	120	TOTAL	114
			Buffer distance (m)	100	Buffer distance (m)	50
<b>Road Construction and Paving</b>						
	Lorry	2	CNP 141	112	Table C.8 Ref. No. 25	96
	Road Roller	2	CNP 185	108	Table C.8 Ref. No. 30	101
	Concrete Mixer Truck	2	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
	Asphalt Paver	2	CNP 004	109	Table C.8 Ref. No. 24	101
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
			TOTAL	121	TOTAL	109
			Buffer distance (m)	112	Buffer distance (m)	28
<b>Landscaping</b>						
	Excavator	1	CNP 081	112	Table C.3 Ref. No. 40	108
	Loader	1	BS5228Table3Ref.No. 97	105	Table C.3 Ref. No. 97	105
	Lorry	1	CNP 141	112	Table C.8 Ref. No. 25	96
			TOTAL	115	TOTAL	110
			Buffer distance (m)	56	Buffer distance (m)	32

SWL : Sound Power Level in dB



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 Table 3A3.4.7 Inventory of Powered Mechanical Equipment for Construction Activities at SWC Alignment

PME Inventory for one Working Unit  
 i.e. one pair of bridge piers

Construction Activity 8 - SWC Deep Water Alignment Construction (Subtidal Area, 1500m offshore)

Activity	Proposed Construction Plants	Nos	UNMITIGATED		MITIGATION LEVEL 1 Quiet Plant BS5228	
			CNP No.	SWL		SWL
<b>Construction of Temporary Access Bridge on Shallow Water</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Lorry	1	CNP 141	112	Table C.8 Ref. No. 25	96
	Driven Piling Rig	1	CNP 165	115	n/a	115
			TOTAL	118	TOTAL	115
			Buffer distance (m)	79	Buffer distance (m)	56
<b>Construction of Cofferdam</b>						
	Mobile Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Vibrator	1	CNP170	113	Table C.6 Ref No. 20	102
	Lorry	1	CNP 141	112	Table C.8 Ref. No. 25	96
			TOTAL	117	TOTAL	104
			Buffer distance (m)	71	Buffer distance (m)	16
<b>Construction of Piles on Deep Water</b>						
	Bored Piling Rig	1	CNP 164	115	n/a	115
	Water Pump	1	CNP 282	103	Table C.7 Ref. No. 68	94
			TOTAL	115	TOTAL	115
			Buffer distance (m)	56	Buffer distance (m)	56
<b>Construction of Pilecaps on Deep Water</b>						
	Concrete Pump	1	CNP 047	109	Table C.6 Ref. No. 36	106
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89
	Barge	2	CNP 061	104	n/a	104
	Tugboat	1	CNP 221	110	n/a	110
	Compressor	1	CNP 002	102	CNP 001	100
			TOTAL	120	TOTAL	119
			Buffer distance (m)	100	Buffer distance (m)	89
<b>Construction of Bridge Columns on Deep Water</b>						
	Compressor	1	CNP 002	102	CNP 001	100
	Generator	1	CNP 101	108	Table C.7 Ref No.54	89
	Concrete Pump	1	CNP 047	109	Table C.6 Ref. No. 36	106
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
	Barge	1	CNP 061	104	n/a	104
	Tugboat	1	CNP 221	110	n/a	110
			TOTAL	118	TOTAL	113
			Buffer distance (m)	79	Buffer distance (m)	45
<b>Erection of Deck Travellers</b>						
	Crane	1	CNP 048	112	Table C.7 Ref No.118	99
	Winch	1	CNP 261	110	CNP 263	102
			TOTAL	114	TOTAL	104
			Buffer distance (m)	50	Buffer distance (m)	16
<b>Construction of Bridge Deck</b>						
	Deck Traveller	2	n/a		n/a	
	Barge	1	CNP 061	104	n/a	104
	Tugboat	1	CNP 221	110	n/a	110
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
	Track-mounted Crane	2	CNP 048	112	Table C.7 Ref No.118	99
	Compressor for Prestressing	2	CNP 002	102	CNP 001	100
	Truck	1	CNP 067	117	Table C.3 Ref. No. 52	109
			TOTAL	120	TOTAL	114
			Buffer distance (m)	100	Buffer distance (m)	50
<b>Road Construction and Paving</b>						
	Lorry	2	CNP 141	112	Table C.8 Ref. No. 25	96
	Road Roller	2	CNP 185	108	Table C.8 Ref. No. 30	101
	Concrete Mixer Truck	2	CNP044	109	Table C.6 Ref. No. 33	96
	Vibratory Poker	2	CNP 170	113	Table C.6 Ref. No. 40	98
	Asphalt Paver	2	CNP 004	109	Table C.8 Ref. No. 24	101
	Generator	2	CNP 101	108	Table C.7 Ref No.54	89
			TOTAL	121	TOTAL	109
			Buffer distance (m)	112	Buffer distance (m)	28

SWL : Sound Power Level in dB

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**Table 3A3.5 Distance of Assessment Points to Notional Noise Sources**

Notional Noise Source	E N		AP8004	AP8010	AP8016	AP8025
	E	N	815430 835151	815297 835020	815243 834922	815072 834912
SWC-A	815201	835053	249	101	137	191
SWC-B	815159	835114	274	167	209	220
SWC-C	815117	835176	314	239	283	268
WA-1	815243	834993	245	60	71	190
WA-2	815286	834932	262	89	44	215
WA-3	815329	834871	298	153	100	260
DBL-A	815376	834813	342	221	172	320
DBL-B	815416	834771	380	275	230	372
DBL-C	815522	834702	459	389	355	496

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 Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 1 - SWC Shore Alignment Construction  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities	Max noise (SWL)
Temporary access bridge	118
Cofferdam	117
Piles	113
Pile caps	116
Bridge columns	119
Deck Traveller	114
Decks	120
Roadworks	121

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 1 - SWC Shore Alignment Construction</b>							
<b>Temporary access bridge</b>							
	SWC-A	815201	835053	65	73	70	67
	SWC-B	815159	835114	64	69	67	66
	SWC-C	815117	835176	63	65	64	64
	<b>Combined Total</b>			69	75	72	71
<b>Cofferdam</b>							
	SWC-A	815201	835053	64	72	69	66
	SWC-B	815159	835114	63	68	66	65
	SWC-C	815117	835176	62	64	63	63
	<b>Combined Total</b>			68	74	71	70
<b>Piles</b>							
	SWC-A	815201	835053	60	68	65	62
	SWC-B	815159	835114	59	64	62	61
	SWC-C	815117	835176	58	60	59	59
	<b>Combined Total</b>			64	70	67	66
<b>Pile caps</b>							
	SWC-A	815201	835053	63	71	68	65
	SWC-B	815159	835114	62	67	65	64
	SWC-C	815117	835176	61	63	62	62
	<b>Combined Total</b>			67	73	70	69
<b>Bridge columns</b>							
	SWC-A	815201	835053	66	74	71	68
	SWC-B	815159	835114	65	70	68	67
	SWC-C	815117	835176	64	66	65	65
	<b>Combined Total</b>			70	76	73	72
<b>Deck Traveller</b>							
	SWC-A	815201	835053	61	69	66	63
<b>Decks</b>							
	SWC-A	815201	835053	67	75	72	69
<b>Roadworks</b>							
	SWC-A	815201	835053	68	76	73	70

**Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 1 - SWC Shore Alignment Construction  
Construction Noise Level at Assessment Points**

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities	Max noise (SWL)
Temporary access bridge	115
Cofferdam	104
Piles	104
Pile caps	108
Bridge columns	109
Deck Traveller	104
Decks	114
Roadworks	109

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 1 - SWC Shore Alignment Construction</b>							
<b>Temporary access bridge</b>							
	SWC-A	815201	835053	62	70	67	64
	SWC-B	815159	835114	61	66	64	63
	SWC-C	815117	835176	60	62	61	61
	<b>Combined Total</b>			<b>66</b>	<b>72</b>	<b>69</b>	<b>68</b>
<b>Cofferdam</b>							
	SWC-A	815201	835053	51	59	56	53
	SWC-B	815159	835114	50	55	53	52
	SWC-C	815117	835176	49	51	50	50
	<b>Combined Total</b>			<b>55</b>	<b>61</b>	<b>58</b>	<b>57</b>
<b>Piles</b>							
	SWC-A	815201	835053	51	59	56	53
	SWC-B	815159	835114	50	55	53	52
	SWC-C	815117	835176	49	51	50	50
	<b>Combined Total</b>			<b>55</b>	<b>61</b>	<b>58</b>	<b>57</b>
<b>Pile caps</b>							
	SWC-A	815201	835053	55	63	60	57
	SWC-B	815159	835114	54	59	57	56
	SWC-C	815117	835176	53	55	54	54
	<b>Combined Total</b>			<b>59</b>	<b>65</b>	<b>62</b>	<b>61</b>
<b>Bridge columns</b>							
	SWC-A	815201	835053	56	64	61	58
	SWC-B	815159	835114	55	60	58	57
	SWC-C	815117	835176	54	56	55	55
	<b>Combined Total</b>			<b>60</b>	<b>66</b>	<b>63</b>	<b>62</b>
<b>Deck Traveller</b>							
	SWC-A	815201	835053	51	59	56	53
<b>Decks</b>							
	SWC-A	815201	835053	61	69	66	63
<b>Roadworks</b>							
	SWC-A	815201	835053	56	64	61	58

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Appendix 3A - Construction Noise Assessment

Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 2 - DBL Alignment Construction  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities Max noise (SWL)

Piles	113
Pile caps	116
Bridge columns	119
Deck Traveller	114
Decks	120
Roadworks	121

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 2 - DBL Alignment Construction</b>							
<b>Piles</b>							
	WA-1	815243	834993	60	72	71	62
	WA-2	815286	834932	60	69	75	61
	WA-3	815329	834871	59	64	68	60
	<b>Combined Total</b>			64	75	<u>77</u>	66
<b>Pile caps</b>							
	WA-1	815243	834993	63	75	74	65
	WA-2	815286	834932	63	72	<u>78</u>	64
	WA-3	815329	834871	62	67	71	63
	<b>Combined Total</b>			67	<u>78</u>	<u>80</u>	69
<b>Bridge columns</b>							
	WA-1	815243	834993	66	<u>78</u>	<u>77</u>	68
	WA-2	815286	834932	66	75	<u>81</u>	67
	WA-3	815329	834871	65	70	74	66
	<b>Combined Total</b>			70	<u>81</u>	<u>83</u>	72
<b>Deck Traveller</b>							
	WA-1	815243	834993	61	73	72	63
<b>Decks</b>							
	WA-1	815243	834993	67	<u>79</u>	<u>78</u>	69
<b>Roadworks</b>							
	WA-1	815243	834993	68	<u>80</u>	<u>79</u>	70

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Appendix 3A - Construction Noise Assessment

Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 2 - DBL Alignment Construction  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities Max noise (SWL)

Piles	97
Pile caps	99
Bridge columns	101
Deck Traveller	104
Decks	111
Roadworks	109

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 2 - DBL Alignment Construction</b>							
<b>Piles</b>							
	WA-1	815243	834993	44	56	55	46
	WA-2	815286	834932	44	53	59	45
	WA-3	815329	834871	43	48	52	44
	<b>Combined Total</b>			<b>48</b>	<b>59</b>	<b>61</b>	<b>50</b>
<b>Pile caps</b>							
	WA-1	815243	834993	46	58	57	48
	WA-2	815286	834932	46	55	61	47
	WA-3	815329	834871	45	50	54	46
	<b>Combined Total</b>			<b>50</b>	<b>61</b>	<b>63</b>	<b>52</b>
<b>Bridge columns</b>							
	WA-1	815243	834993	48	60	59	50
	WA-2	815286	834932	48	57	63	49
	WA-3	815329	834871	47	52	56	48
	<b>Combined Total</b>			<b>52</b>	<b>63</b>	<b>65</b>	<b>54</b>
<b>Deck Traveller</b>							
	WA-1	815243	834993	51	63	62	53
<b>Decks</b>							
	WA-1	815243	834993	58	70	69	60
<b>Roadworks</b>							
	WA-1	815243	834993	56	68	67	58

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Appendix 3A - Construction Noise Assessment

Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 3 - DBL Alignment Construction  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities	Max Noise (SWL)
Piles and pile caps	122
Pier	118
Superstructure	117

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 3 - DBL Alignment Construction</b>							
<b><i>Piles and pile caps</i></b>							
	DBL-A	815376	834813	66	70	72	67
	DBL-B	815416	834771	65	68	70	66
	DBL-C	815522	834702	64	65	66	63
	<b>Combined Total</b>			70	73	75	70
<b><i>Pier</i></b>							
	DBL-A	815376	834813	62	66	68	63
	DBL-B	815416	834771	61	64	66	62
	DBL-C	815522	834702	60	61	62	59
	<b>Combined Total</b>			66	69	71	66
<b><i>Superstructure</i></b>							
	DBL-A	815376	834813	61	65	67	62
	DBL-B	815416	834771	60	63	65	61
	DBL-C	815522	834702	59	60	61	58
	<b>Combined Total</b>			65	68	70	65

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 Appendix 3A - Construction Noise Assessment  
 Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 3 - DBL Alignment Construction  
 Construction Noise Level at Assessment Points

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

Construction Activities	Max Noise (SWL)
Piles and pile caps	110
Pier	99
Superstructure	105

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 3 - DBL Alignment Construction</b>							
<i>Piles and pile caps</i>							
	DBL-A	815376	834813	54	58	60	55
	DBL-B	815416	834771	53	56	58	54
	DBL-C	815522	834702	52	53	54	51
	<b>Combined Total</b>			58	61	63	58
<i>Pier</i>							
	DBL-A	815376	834813	43	47	49	44
	DBL-B	815416	834771	42	45	47	43
	DBL-C	815522	834702	41	42	43	40
	<b>Combined Total</b>			47	50	52	47
<i>Superstructure</i>							
	DBL-A	815376	834813	49	53	55	50
	DBL-B	815416	834771	48	51	53	49
	DBL-C	815522	834702	47	48	49	46
	<b>Combined Total</b>			53	56	58	53



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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 4 - SWC Work Site**  
**Construction Noise Level at Assessment Points**

Assumptions: All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

**Construction Activities**      **Max Noise (SWL)**  
 Site preparation                123

				AP8004	AP8010	AP8016	AP8025
				815430	815297	815243	815072
				835151	835020	834922	834912
<b>Construction Activity 4 - SWC Work Site</b>							
	WA-3	815329	834871	69	74	<u>78</u>	70

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 4 - SWC Work Site**  
**Construction Noise Level at Assessment Points**

**Assumptions:** All items of PME are grouped at a position of approximate geographical centre of the construction site  
 Assessment points of the NSRs are chosen based on the nearest distance to the NNS.

**Construction Activities**      **Max Noise (SWL)**  
 Site preparation                      114

			AP8004	AP8010	AP8016	AP8025
			815430	815297	815243	815072
			835151	835020	834922	834912
<b>Construction Activity 4 - SWC Work Site</b>						
WA-3	815329	834871	60	65	69	61

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 7 -**  
**SWC Shore Alignment Construction (500m offshore, Intertidal Area 2)**

	Distance (m)	Distance Correction dB(A)	Façade Effect dB(A)
Pier at 500m offshore, Intertidal Area 2	500	-62.0	3

**Construction Activity 7 - SWC Shore Alignment Construction (500m offshore, Intertidal Area 2)**

	SWL dB(A)	Predicted Noise Level dB(A)
<i>Temporary access bridge</i>	118	59
<i>Cofferdam</i>	117	58
<i>Piles</i>	113	54
<i>Pile caps</i>	116	57
<i>Bridge columns</i>	119	60
<i>Deck Traveller</i>	117	58
<i>Decks</i>	114	55
<i>Roadworks</i>	121	62

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 Appendix 3A - Construction Noise Assessment  
 Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 7 -  
 SWC Shore Alignment Construction (500m offshore, Intertidal Area 2)

	Distance (m)	Distance Correction dB(A)	Façade Effect dB(A)
Pier at 500m offshore, Intertidal Area 2	500	-62.0	3

**Construction Activity 7 - SWC Shore Alignment Construction (500m offshore, Intertidal Area 2)**

	SWL dB(A)	Predicted Noise Level dB(A)
<i>Temporary access bridge</i>	115	56
<i>Cofferdam</i>	106	47
<i>Piles</i>	106	47
<i>Pile caps</i>	108	49
<i>Bridge columns</i>	109	50
<i>Deck Traveller</i>	114	55
<i>Decks</i>	105	46
<i>Roadworks</i>	109	50

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.5 Noise Level at Each Segment for Unmitigated Scenario for Construction Activity 8 -**  
**SWC Deep Water Alignment Construction (Subtidal Area, 1500m offshore)**

	Distance (m)	Distance Correction dB(A)	Façade Effect dB(A)
Pier at 1500m offshore, Subtidal Area	1500	-71.5	3

**Construction Activity 8 - SWC Deep Water Alignment Construction (Subtidal Area, 1500m offshore)**

	SWL dB(A)	Predicted Noise Level dB(A)
<i>Temporary access bridge</i>	118	49
<i>Cofferdam</i>	117	48
<i>Piles</i>	113	44
<i>Pile caps</i>	116	47
<i>Bridge columns</i>	119	50
<i>Deck Traveller</i>	114	45
<i>Decks</i>	120	51
<i>Roadworks</i>	121	52

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.5 Noise Level at Each Segment for Mitigated Scenario for Construction Activity 8 -**  
**SWC Deep Water Alignment Construction (Subtidal Area, 1500m offshore)**

	Distance (m)	Distance Correction dB(A)	Façade Effect dB(A)
Pier at 1500m offshore, Subtidal Area	1500	-71.5	3

**Construction Activity 8 - SWC Deep Water Alignment Construction (Subtidal Area, 1500m offshore)**

	SWL dB(A)	Predicted Noise Level dB(A)
<i>Temporary access bridge</i>	115	46
<i>Cofferdam</i>	106	37
<i>Piles</i>	106	37
<i>Pile caps</i>	108	39
<i>Bridge columns</i>	109	40
<i>Deck Traveller</i>	114	45
<i>Decks</i>	105	36
<i>Roadworks</i>	109	40

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 Appendix 3A - Construction Noise Assessment  
 Table 3A3.5 Noise Level at Each Segment for Various Construction Activities

Construction Activities	Unmitigated scenario Max noise (SWL)				Mitigated scenario Max noise (SWL)			
	AP8004	AP8010	AP8016	AP8025	AP8004	AP8010	AP8016	AP8025
Construction Activity 1	70	<u>76</u>	73	72	66	72	69	68
Construction Activity 2	70	<u>81</u>	<u>83</u>	72	58	70	69	60
Construction Activity 3	70	73	75	70	58	61	63	58
Construction Activity 4	69	74	<u>78</u>	70	60	65	69	61
Construction Activity 7	62	62	62	62	56	56	56	56
Construction Activity 8	52	52	52	52	46	46	46	46
<b>Noise level</b>	52-70	52-81	52-83	52-72	46-66	46-72	46-69	46-68

Assumed construction activities 1, 3, 7 & 8 work concurrently:

Construction Activities	Unmitigated scenario Max noise (SWL)				Mitigated scenario Max noise (SWL)			
	AP8004	AP8010	AP8016	AP8025	AP8004	AP8010	AP8016	AP8025
Construction Activity 1	70	<u>76</u>	73	72	66	72	69	68
Construction Activity 3	70	73	75	70	58	61	63	58
Construction Activity 7	62	62	62	62	56	56	56	56
Construction Activity 8	52	52	52	52	46	46	46	46
<b>Combined noise level</b>	73	<u>78</u>	<u>77</u>	74	67	72	70	69

	Max noise (SWL)			
	AP8004	AP8010	AP8016	AP8025
<b>Unmitigated scenario</b>	73	<u>81</u>	<u>83</u>	74
<b>Mitigated scenario</b>	67	72	70	69

- Note:
- Construction Activity 1 - SWC Shore Alignment Construction
  - Construction Activity 2 - DBL Alignment Construction
  - Construction Activity 3 - DBL Alignment Construction
  - Construction Activity 4 - SWC Work Site
  - Construction Activity 7 - SWC Shore Alignment Construction (500m offshore)
  - Construction Activity 8 - SWC Shore Alignment Construction (1500m offshore)

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**Appendix 3A - Construction Noise Assessment**  
**Table 3A3.6 Noise due to Haul Road Traffic in Construction Phase**

**Construction Activity 6**

**Methodologies and Assumptions**

BS5228 A.3.4.2 Method for mobile plant on haul roads

$$LA_{eq} = L_{wa} - 33 + 10 \log Q - 10 \log V - 10 \log d + 3$$

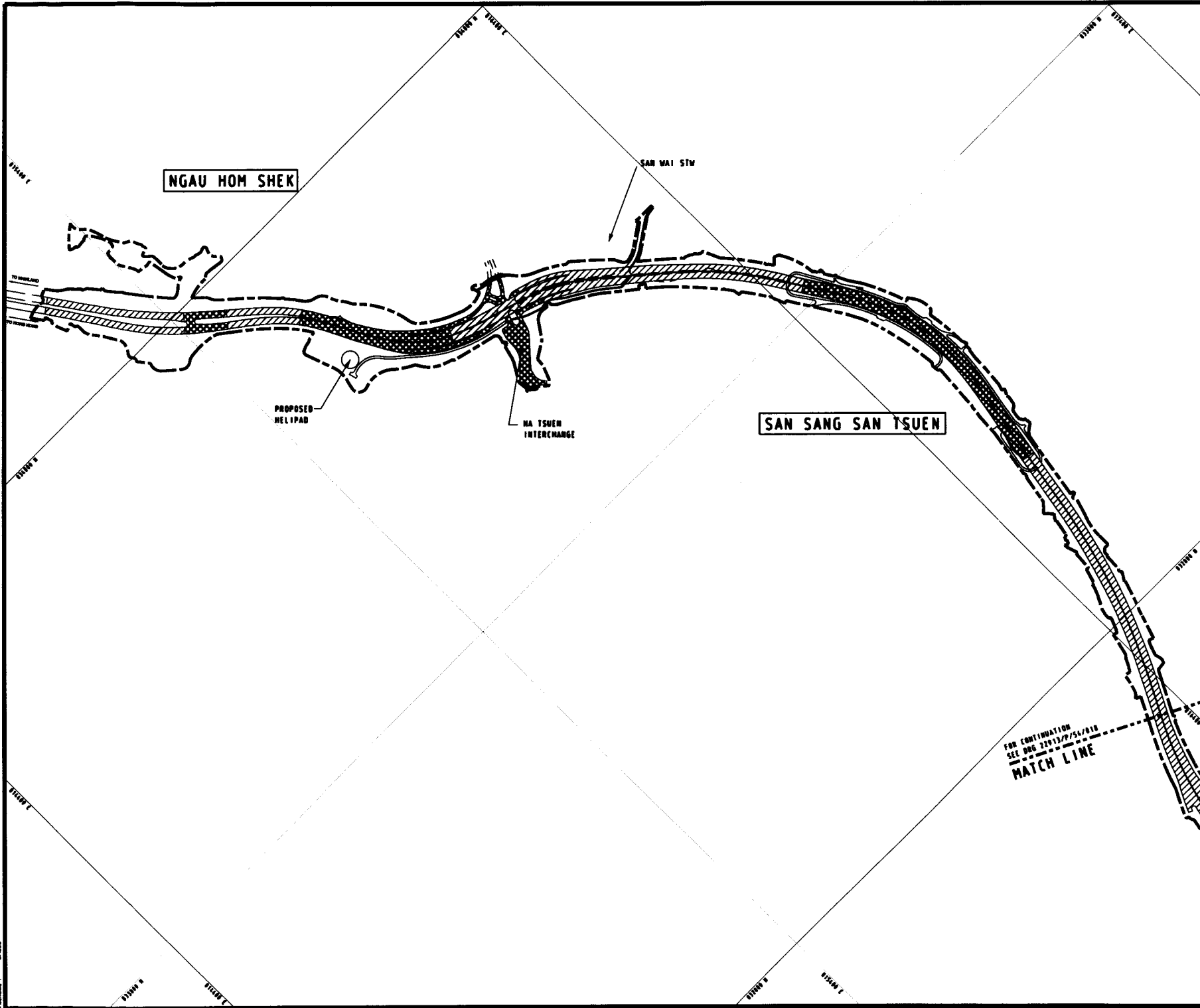
L<sub>wa</sub> = sound power level of the plant                      102 dB                      (BS5228 Table C.9 ref.no.19)  
Q = number of vehicles per hr                                      80 veh/hr  
V = average vehicle speed (km/h)                                      20 km/h  
d = distance of receiving position from centre of haul road  
Façade effect 3dB added.

Road length

**Predicted Noise Level due to Truck Traffic originated from SWC**

<b>Assessment Point</b>	<b>Distance d (m)</b>	<b>Predicted Noise Level, PNL dB(A)</b>
Receiver Distance	3	73.2
Receiver Distance	5	71.0
Receiver Distance	10	68.0





**LEGEND**

	LIMIT OF WORKS AREA
	PRECAST SEGMENTAL PRESTRESS CONCRETE DECK
	CAST IN-SITU PRESTRESS CONCRETE DECK
	CAST IN-SITU REINFORCED CONCRETE DECK

A	FINAL GENERAL LAYOUT	DN	02/02
Rev.	Description	By	Date

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VIADUCT STRUCTURE  
CONSTRUCTION METHOD

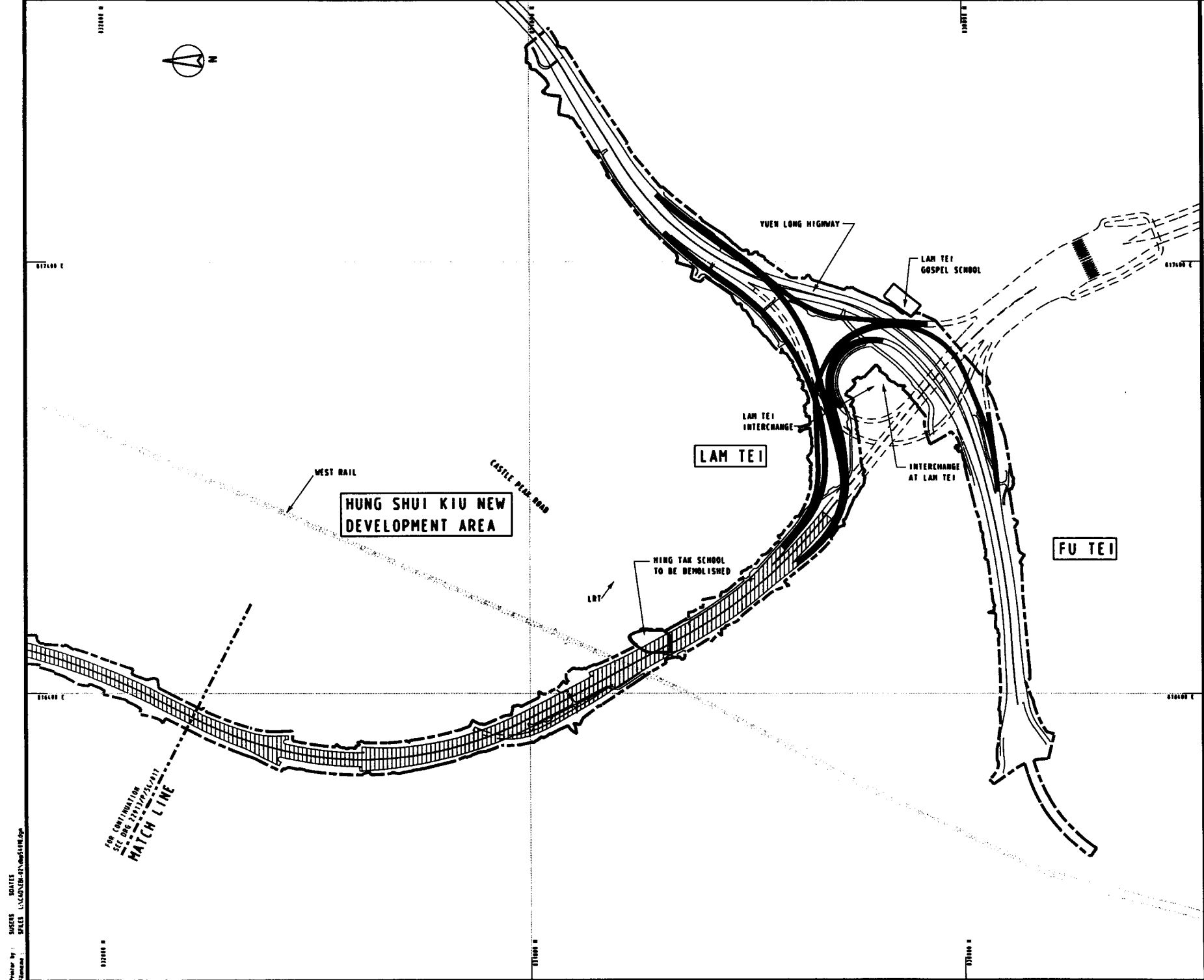
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Major Works Project Management Office

Prepared by: SHATES  
 Checked by: SHATES  
 Date: 10/01



**LEGEND**

- LIMIT OF WORKS AREA
- PRECAST SEGMENTAL PRESTRESS CONCRETE DECK
- CAST IN-SITU PRESTRESS CONCRETE DECK
- CAST IN-SITU REINFORCED CONCRETE DECK

Rev	Description	By	Date
A	FINAL GENERAL LAYOUT	DN	02/92

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**VIADUCT STRUCTURE  
 CONSTRUCTION METHOD**

SHEET 2 OF 2

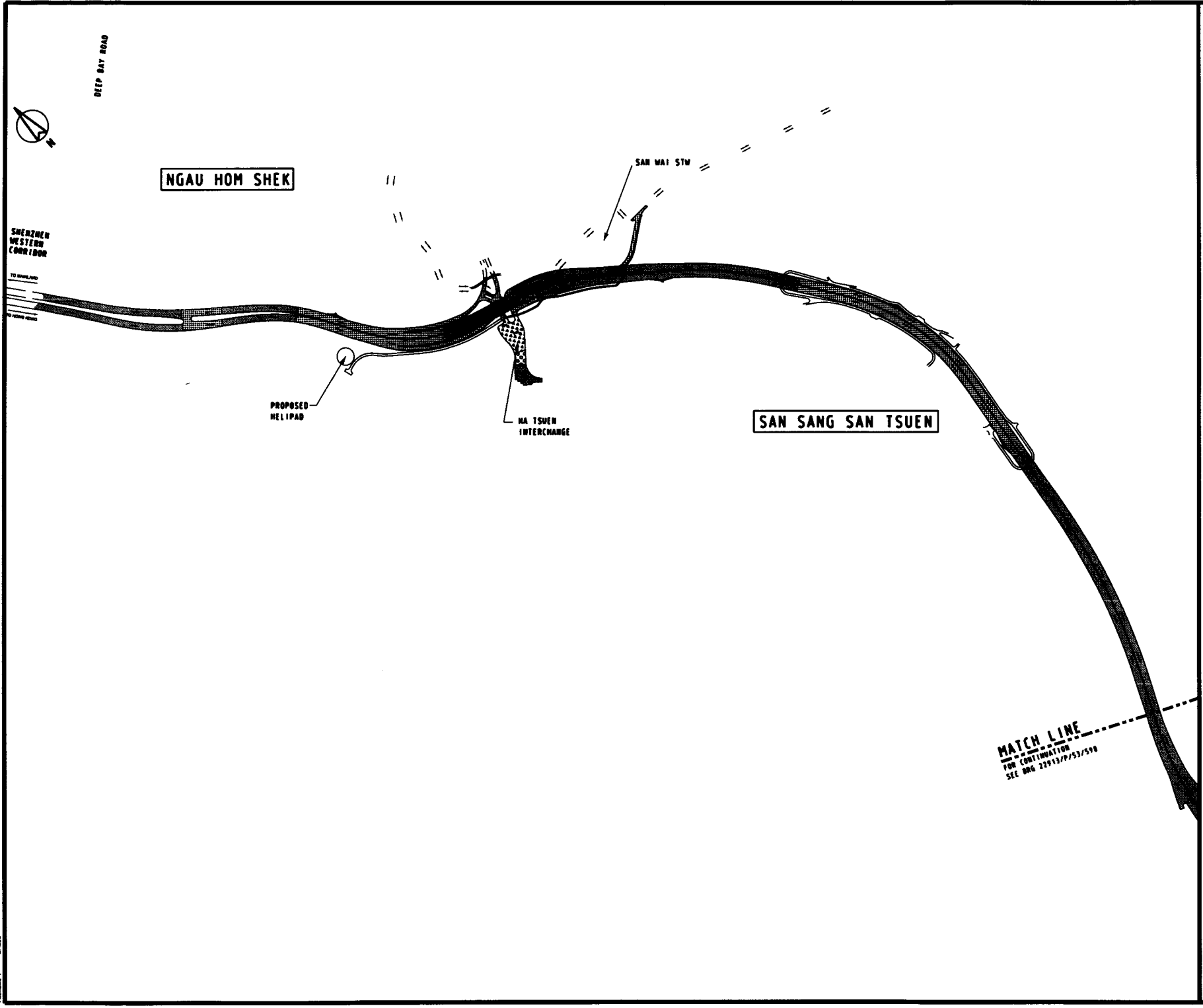
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1:4000	DN 41		<b>PRELIMINARY</b>

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 Release:



- LEGEND**
- LIMIT OF WORKS AREA
  - ACCESS TO SITE
  - [Cross-hatched pattern] PROPOSED CONTRACTOR'S WORKS AREA
  - [Grid pattern] PROPOSED CONCRETE CATERING PLANT
  - [Solid black] PROPOSED PRECASTING YARD
  - [Dotted pattern] VIADUCT
  - [Horizontal line pattern] AT GRADE

Rev	Description	By	Date
C	FINAL GENERAL LAYOUT	DM	02/02
B	DRAFT GENERAL LAYOUT	DM	10/01
A	DRAFT GENERAL LAYOUT (PSC, VEHICLE OPTION NOT ISSUED)	DM	09/01

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Drawing info  
**ACCESS AND WORKS AREAS  
 LAYOUT PLAN**

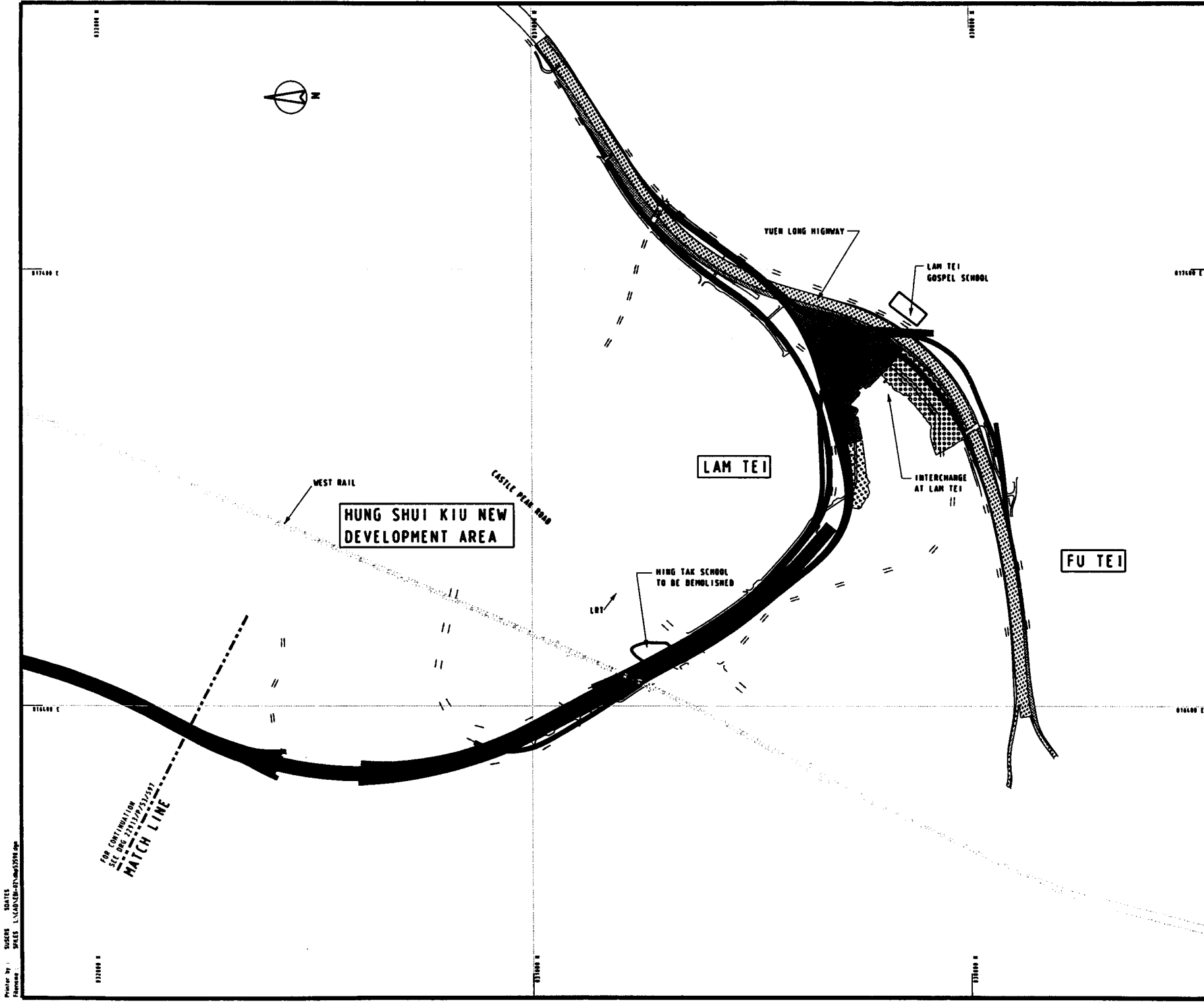
SHEET 1 OF 2

Drawing No. 22913/P/53/597		Rev. C	
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10/01	S.H.		E.C.
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 Checked by: SURVEYORS



**LEGEND**

	LIMIT OF WORKS AREA
	ACCESS TO SITE
	PROPOSED CONTRACTORS' WORKS AREA
	PROPOSED CONCRETE BATCHING PLANT
	PROPOSED PRECASTING YARD
	VIADUCT
	AT GRADE
	YUEN LONG HIGHWAY

Rev	Description	By	Date
C	FINAL GENERAL LAYOUT	DN	02/97
D	DRAFT GENERAL LAYOUT	DN	10/91
A	DRAFT GENERAL LAYOUT (THIS SYMBOL OPTION NOT ISSUED)	DN	09/81

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Project No: Agreement No. CE 109/98  
Deep Bay Link Investigation and Preliminary Design Colocation Option

Drawing title: ACCESS AND WORKS AREAS LAYOUT PLAN

SHEET 2 OF 2

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 ALL DIMENSIONS IN METERS  
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828800N

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808250E

809000E

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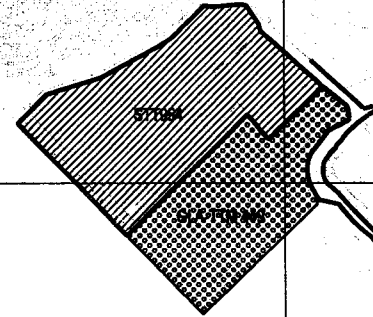
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828800N



**LEGEND**

- TRAFFIC FLOW DIRECTION
- PROPOSED BARGING POINT
- PROPOSED WSD SALT WATER PUMPING STATION AT LUNG KWU SHEUNG TAN
- PROPOSED ACCESS TO AND FROM BARGING POINTS



LUNG KWU SHEUNG TAN

TO NIM WAN

YUNG LONG ROAD

LUNG KWU TAN ROAD

TO TIEN MUN

SCALE: 1:5000 (UNLESS OTHERWISE SPECIFIED)


Designed By: JH  
 Drawn By: SYC  
 Checked By: ED  
 In Charge: SYC  
 Date: DEC 2001

**路政署**  
**HIGHWAYS DEPARTMENT**  
 主要工程管理處  
 Major Works Project Management Office

Consultant:  
**ARUP** 奧雅納工程顧問  
 Ove Arup & Partners Hong Kong Limited  
 Supported By:  
 Environmental Management Ltd. ○  
 SMT Asia Pacific Ltd. ○  
 URS Ltd. ○

Project Title:  
**Shenzhen Western Corridor**  
 Investigation & Planning

Sheet Title:  
**POTENTIAL BARGING POINTS**  
 - OPTION 3

Project No: WCP/310A  
 Date: 1-5-00  
 Drawing No: 23306/P/03/104  
 Drawing Status: PRELIMINARY  
 Sheet No: 1