

Appendix II-1C

Former Marine Police Headquarters - Construction Noise Impact Assessment (Unmitigated)

Stage of Work		Equipment	Qty	Utilisation	Code	Reference SWL	Correction for number of machines, dB(A)	Correction for utilisation, dB(A)	Resultant SWL, dB(A)	Overall SWL, dB(A)	
Site Formation	Tree Retaining Wall Installation	Pile wall for tree protection and temporary platform - Diameter around 219 mm	Odex, Down-the-hole hammer (Odex then Down-the-hole hammer in each hole), Rigs for Pipe pile		4	80%	BS C4-46	102	6.0	-1.0	107
		Crawler Crane	3	80%	BS C7-118	99	4.8	-1.0	103		
		Welding set	4	100%	CNP102	100	6.0	0.0	106		
		Air Compressor	8	100%	CNP002	102	9.0	0.0	111		
	Retaining Wall Installation for Main Building	Pile wall surround the Main Building-Diameter around 550mm	Rigs, Odex, Down-the-hole hammer (Odex then Down-the hole hammer in each hole)		6	80%	BS C4-41	112	7.8	-1.0	119
		Crawler Crane	5	80%	BS C7-118	99	7.0	-1.0	105		
		Welding set	6	100%	CNP102	100	7.8	0.0	108		
		Air Compressor	18	100%	CNP002	102	12.6	0.0	115		
		Generator	4	100%	CNP101	108	6.0	0.0	114		
		Backhoes	4	90%	BS C3-40	108	6.0	-0.5	114		
		Dump Truck	2	80%	BS C9-24	104	3.0	-1.0	106		
	Open Cut Excavation	Backhoes	4	100%	BS C3-40	108	6.0	0.0	114		
		Backhoes with breaker	4	100%	BS C8-13	110	6.0	0.0	116		
		Crawler Crane	2	80%	BS C7-118	99	3.0	-1.0	101		
		Generator	1	100%	CNP101	108	0.0	0.0	108		
	Remaining Excavation	Dump Truck	2	80%	BS C9-24	104	3.0	-1.0	106		
		Drill hole diameter around 150mm	Drilling rigs, Odex, Down-the-hole hammer (Odex then Down-the hole hammer in each hole)		9	50%	BS C4-46	102	9.5	-3.0	109
		Backhoes	3	70%	BS C3-40	108	4.8	-1.5	111		
		Backhoes with breaker	3	70%	BS C8-13	110	4.8	-1.5	113		
		Crawler Crane	2	80%	BS C7-118	99	3.0	-1.0	101		
		Air Compressor	9	100%	CNP002	102	9.5	0.0	112		
		Generator	3	100%	CNP101	108	4.8	0.0	113		
	Foundation	Dump Truck	12	80%	BS C9-24	104	10.8	-1.0	114		
		Backhoes	4	100%	BS C3-40	108	6.0	0.0	114		
		Backhoes with breaker	4	100%	BS C8-13	110	6.0	0.0	116		
		Odex, Down-the-hole hammer	3	80%	BS C4-46	102	4.8	-1.0	106		
		Air Compressor	6	100%	CNP002	102	7.8	0.0	110		
		Generator	3	100%	CNP101	108	4.8	0.0	113		
Crawler Crane		3	80%	BS C7-118	99	4.8	-1.0	103			
Superstructure	Dump Truck	2	80%	BS C9-24	104	3.0	-1.0	106			
	Tower Crane	1	90%	CNP049	95	0.0	-0.5	95			
	Material Hoist	3	90%	CNP122	95	4.8	-0.5	99			
	Concrete Pump	1	20%	CNP047	109	0.0	-7.0	102			
	Vibratory Poker	6	40%	CNP170	113	7.8	-4.0	117			
	Air Compressor	1	100%	CNP002	102	0.0	0.0	102			
	Water Pumps	2	10%	CNP281	88	3.0	-10.0	81			
	Welding Sets	2	100%	CNP102	100	3.0	0.0	103			
	Generator	2	100%	CNP101	108	3.0	0.0	111			
	Dump Truck	2	80%	BS C9-24	104	3.0	-1.0	106			

Former Marine Police Headquarters - Construction Noise Impact Assessment (Mitigated)

Stage of Work		Equipment	Qty	Utilisation	Code	Reference SWL	Correction for number of machines, dB(A)	Correction for utilisation, dB(A)	Correction for barrier/ enclosure	Resultant SWL, dB(A)	Overall SWL, dB(A)	
Site Formation	Tree Retaining Wall Installation	Pile wall for tree protection and temporary platform - Diameter around 219 mm	Odex, Down-the-hole hammer (Odex then Down-the-hole hammer in each hole), Rigs for Pipe pile	4	80%	BS C4-46	102	6.0	-1.0	-10.0	97	106
		Crawler Crane		3	80%	BS C7-118	99	4.8	-1.0		103	
		Welding set		4	100%	CNP102	100	6.0	0.0	-10.0	96	
		Air Compressor		8	100%	CNP002	102	9.0	0.0	-10.0	101	
	Retaining Wall Installation for Main Building	Pile wall surround the Main Building-Diameter around 550mm	Rigs, Odex, Down-the-hole hammer (Odex then Down-the hole hammer in each hole)	6	80%	BS C4-41	112	7.8	-1.0	-10.0	109	113
		Crawler Crane		5	80%	BS C7-118	99	7.0	-1.0		105	
		Welding set		6	100%	CNP102	100	7.8	0.0	-10.0	98	
		Air Compressor		18	100%	CNP002	102	12.6	0.0	-10.0	105	
		Generator		4	100%	CNP102	100	6.0	0.0	-10.0	96	
		Backhoes		4	90%	BS C3-40	108	6.0	-0.5	-10.0	104	
		Dump Truck		2	80%	BS C9-24	104	3.0	-1.0	-5.0	101	
	Open Cut Excavation	Backhoes	4	100%	BS C3-40	108	6.0	0.0	-10.0	104	110	
		Backhoes with breaker	4	100%	BS C8-13	110	6.0	0.0	-10.0	106		
		Crawler Crane	2	80%	BS C7-118	99	3.0	-1.0		101		
		Generator	1	100%	CNP102	100	0.0	0.0	-10.0	90		
	Remaining Excavation	Drill hole diameter around 150mm	Drilling rigs, Odex, Down-the-hole hammer (Odex then Down-the hole hammer in each hole)	9	50%	BS C4-46	102	9.5	-3.0	-10.0	99	112
		Backhoes		3	70%	BS C3-40	108	4.8	-1.5	-10.0	101	
		Backhoes with breaker		3	70%	BS C8-13	110	4.8	-1.5	-10.0	103	
		Crawler Crane		2	80%	BS C7-118	99	3.0	-1.0		101	
		Air Compressor		9	100%	CNP002	102	9.5	0.0	-10.0	102	
		Generator		3	100%	CNP102	100	4.8	0.0	-10.0	95	
		Dump Truck		12	80%	BS C9-24	104	10.8	-1.0	-5.0	109	
	Foundation	Backhoes	4	100%	BS C3-40	108	6.0	0.0	-10.0	104	111	
Backhoes with breaker		4	100%	BS C8-13	110	6.0	0.0	-10.0	106			
Odex, Down-the-hole hammer		3	80%	BS C4-46	102	4.8	-1.0	-10.0	96			
Air Compressor		6	100%	CNP002	102	7.8	0.0	-10.0	100			
Generator		3	100%	CNP102	100	4.8	0.0	-10.0	95			
Crawler Crane		3	80%	BS C7-118	99	4.8	-1.0		103			
Dump Truck		2	80%	BS C9-24	104	3.0	-1.0	-5.0	101			
Superstructure	Tower Crane	1	90%	CNP049	95	0.0	-0.5		95	109		
	Material Hoist	3	90%	CNP122	95	4.8	-0.5		99			
	Concrete Pump	1	20%	CNP047	109	0.0	-7.0	-10.0	92			
	Vibratory Poker	6	40%	CNP170	113	7.8	-4.0	-10.0	107			
	Air Compressor	1	100%	CNP002	102	0.0	0.0	-10.0	92			
	Water Pumps	2	10%	CNP281	88	3.0	-10.0	-10.0	71			
	Welding Sets	2	100%	CNP102	100	3.0	0.0	-10.0	93			
	Generator	2	100%	CNP102	100	3.0	0.0	-10.0	93			
	Dump Truck	2	80%	BS C9-24	104	3.0	-1.0	-5.0	101			

**Predicted Construction Noise Level - Unmitigated Scenario**

Stage with concurrent work	Overall SWL, dB(A)	N1 & N2	N1	N2	N1	N2
		Façade corr.	Distance corr. dB(A)	Distance corr. dB(A)	Predicted Noise Level, dB(A)	Predicted Noise Level, dB(A)
Tree Retaining Wall Installation; Retaining Wall Installation for Main Building; Open Cut Excavation	124	3	-44	-49	83	79
Retaining Wall Installation for Main Building; Open Cut Excavation	124	3	-44	-49	83	78
Retaining Wall Installation for Main Building	122	3	-44	-49	81	76
Remaining Excavation	120	3	-44	-49	79	74
Foundation	120	3	-44	-49	79	74
Superstructure	119	3	-44	-49	77	73

Distance from N1 to notional noise source = 65m  
 Distance from N2 to notional noise source = 109m

**Predicted Construction Noise Level - Mitigated Scenario**

Stage with concurrent work	Overall SWL, dB(A)	N1 & N2	N1	N2	N1	N2
		Façade corr.	Distance corr. dB(A)	Distance corr. dB(A)	Predicted Noise Level, dB(A)	Predicted Noise Level, dB(A)
Tree Retaining Wall Installation; Retaining Wall Installation for Main Building; Open Cut Excavation	115	3	-44	-49	74	69
Retaining Wall Installation for Main Building; Open Cut Excavation	114	3	-44	-49	73	69
Retaining Wall Installation for Main Building	113	3	-44	-49	71	67
Remaining Excavation	112	3	-44	-49	70	66
Foundation	111	3	-44	-49	69	65
Superstructure	109	3	-44	-49	68	63

Distance from N1 to notional noise source = 65m  
 Distance from N2 to notional noise source = 109m

**Predicted Construction Noise Level - Mitigated Scenario (Cumulative)**

Stage with concurrent work	Predicted Construction Noise Level due to the Project, dB(A)		Predicted Cumulative Construction Noise Level, dB(A)	
	N1	N2	N1	N2
Tree Retaining Wall Installation; Retaining Wall Installation for Main Building; Open Cut Excavation (Jan 2004 - Mar 2004)	74	69	74	69
Retaining Wall Installation for Main Building; Open Cut Excavation (Apr 2004)	73	69	73	69
Retaining Wall Installation for Main Building (May 2004 - Oct 2004)	71	67	71	67
Remaining Excavation (Nov 2004 - Mar 2005)	70	66	74	73
Foundation (Apr 2005 - Jun 2005)	69	65	72	70
Superstructure (Jul 2005 - Jun 2006)	68	63	71	70

Noise levels generated by KSL on N1 and N2, dB(A) are assumed as 72dB(A) (11/04-03/05) and 69 dB(A) (04/05-07/06)

\*shaded cell denotes exceedance