

IMMINGHAM EASTERN RO-RO TERMINAL



Environmental Statement: Volume 3
Appendix 14.2: Construction Noise Levels and Assumptions
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APFP Regulations 2009 – Regulation 5(2)(a) and 5(2)(e)
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Appendix 14.2

Construction noise levels and assumptions

- 14.1.1 The construction noise predictions have been undertaken using noise data for items of plant and calculation methodologies from BS 5228-1:2009+A1:2014. Manufacturer's source data together with that extracted from Hong Kong Environmental Protection Department website (www.epd.gov,hk) were also used where source data were not available in BS 5228-1:2009+A1:2014. Predicted noise levels for the construction of the IERRT project have been based on similar construction methods used for developments in the UK.
- 14.1.2 Predictions have been carried out assuming all of the plant is operating at the realistic closest approach to the Noise Sensitive Receptors (NSRs) (apart from the crusher and screening plant which will be located a minimum of 250 m away from on-site NSRs). This, therefore, is a worst-case scenario, as not all the plant will be at the closest approach for the full duration (or at all), and the construction plant is likely to spread across the site. For NSRs on Kings Road and Queens Road, a -5dB reduction has been applied, to allow for partial screening due to the existing building and structures between the application site and the residential NSRs.
- 14.1.3 The potential construction noise levels have also been predicted at the People Asset Management Ltd (PAM) building (a port occupational health services building), the PK Construction (Lincs) Limited Office buildings and the Nippon Gases UK Limited Office building within the port, due to their close proximity to the boundary of the IERRT project site. For the PK Construction Office building and the Nippon Gas Office building no screening correction due to existing on-site structures has been applied. However, the construction predictions assume that temporary acoustic screening will be erected either around construction plant operating near the PAM building or around the PAM building itself throughout the construction works. A -5 dB reduction has been applied to the noise calculations as a result of this screening as a conservative approach as acoustic screening could provide more than 5 dB attenuation.
- 14.1.4 The table below provides a list of indicative construction plant and associated sound power levels (L_w)

Table 1 Indicative construction plant and associated sound power levels

Plant item	Source	Number in Operation	Total Sound power level (L_{wA}) dB
Marine Works			
Pile Hammer (CG 300)	CG 300 Data sheet	2	127
Pile Hammer (CG 300)	CG 300 Data sheet	1	124

Plant item	Source	Number in Operation	Total Sound power level (L_{wA}) dB
Vibratory Hammer (PTC 130 HD)	C3.8*	2	119
Vibratory Hammer (PTC 130 HD)	C3.8*	1	116
Back Hoe Dredger (Manu Pekka)	C.7.2*	1	110
Multipurpose Hopper Barge (Cork Sand)	C.7.2 *	5	117
Crane Barge Inc 350T Crawler Crane (piling)	cnp048**	1	112
Crane Barge Inc 350T Crawler Crane (piling)	cnp048**	1	112
Crane Barge Inc 350T Crawler Crane (deck build)	cnp048**	1	112
Crane Barge Inc 350T Crawler Crane (deck build)	cnp048**	1	112
Crawler Crane 150T	C.3.28*	1	95
Tug / Multi Cat	CNP22**1	2	110
Hatch Barge/Deck Barge	other assessments	3	112
Site Clearance & Demolition			
Dozer (D6)	C2.12*	6	116.8
Hydraulic Excavator 30T	C10.1*	4	114
Dump Trucks 35T	C2.31*	3	119.8
Crushers	C.1.15*	3	116.8
Screening Plants	C.10.16*	3	113.8
Tractors Trailers	C.4.75*	4	113
Tipper	C8.20*	4	113
Peckers	C.1.2*	1	120
Compressors	C5.5*	5	100
Dozer (D6)	C1.2*	2	123
Roads and Hardstanding			
Roller (Bomag 213 DH - 5)	C2.21*	4	105
Road Paver (VOLVO P6820D ABG)	C4.66*	4	103

Plant item	Source	Number in Operation	Total Sound power level (L_{WA}) dB
Asphalt / Concrete Plant	C4.75*	1	107
Tractors Trailers	C.4.75*	4	113
Tipper	C8.20*	4	113
Bridge and Buildings			
Tractors Trailers	C.4.75*	4	113
Tipper	C8.20*	4	113
Concrete Pumps	C4.24*	1	95
Cranes 76-100 Ton	C4.41*	1	99
Cranes 101-150 Ton	C4.41*	1	99
Cranes 151-200 Ton	C4.41*	1	99
Cranes 201-250 Ton	C4.41*	1	99
Cranes 251-300 Ton	C4.41*	1	99
Cranes 301-600 Ton	C4.50*	1	99
Generators	C3.32*	2	104
Transformers	Other assessments	10	98
Automatic Welding Set	C.3.31*	2	104
Drainage			
Tractors Trailers	C.4.75*	4	113
Tipper	C8.20*	4	113
14T Excavator	C4.56*	5	118
Compressor	C5.5*	2	96
Trailer	C.4.7*5	4	113
Dumper	C4.6*	4	113
Test Pump	C.11.1*	1	109
Dewatering Pump	C.11.1*	1	109
Bridge			
sheet piling	C.3.8*	1	116
Concrete pump + cement mixer truck	C.4.24*	1	95
Telescopic handler	C.4.55*	2	101
Mobile telescopic crane	C.4.46*	1	95

Plant item	Source	Number in Operation	Total Sound power level (L_{wA}) dB
Hand-held circular bench saw	C.4.72*	2	110
Diesel Generator	C.4.76*	1	89
Water pump (diesel)	C.4.88	1	96
Dredging Only			
Back Hoe Dredger (Manu Pekka)	C.7.2 *	1	110
Multipurpose Hopper Barge (Cork Sand)	C.7.2 *	5	117
Crawler Crane 150T	C.3.28*	1	95
Tug / Multi Cat	CNP221**	2	110
Hatch Barge/Deck Barge	other assessments	3	112
* BS 5228-1:2009+A1:2014 table and row reference			
** Hong Kong Environmental Protection Department website (www.epd.gov.hk)			

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