



Colwyn Bay Waterfront Project Phase 2b Environmental Statement

Volume 2: Technical Appendices
Technical Appendix 14 - Noise and Vibration

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Colwyn Bay Waterfront Project Phase 2b Environmental Statement

Volume 2: Technical Appendices
Technical Appendix 14 - Noise and Vibration

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Appendix 14.1 – Noise and Vibration Construction Plant List and Plant Noise Levels



Colwyn Bay Waterfront Project Phase 2b Environmental Statement

Noise and Vibration Appendix 14.1: Construction
Plant List and Plant Noise Levels

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Noise and Vibration Appendix 14.1: Construction
Plant List and Plant Noise Levels

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A. Construction Plant Inventories

Table A.1: Plant list and plant noise levels for construction activity 1 - Site establishment and main compound setup

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Tracked excavator	C.2.5	76	1	50
	Tracked excavator (loading dump truck)	C.1.10	85	1	25
	Diesel generator	C.4.83	65	1	100
	Lorry with lifting boom C.4	C.4.53	77	1	10
	Dumper	C.4 #3	76	1	25
	Water bowser	C.2.45	65	1	10
	Crane mounted auger	C.3.16	79	1	10

Table A.2: Plant list and plant noise levels for construction activity 2 – Beach recharge compound setup

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Hi-ab	C4.53	77	1	50
	Diesel Generator	Diesel Generator	65	1	50

Table A.3: Plant list and plant noise levels for construction activity 3 – Groyne works

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Tracked excavator	C.6.5	83	1	50
	Dump truck	C.6.25	86	1	50
	Tracked excavator (loading dump truck)	C.1.10	85	1	10

Table A.4: Plant list and plant noise levels for construction activity 4 – Outfall extensions

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Tracked excavator	C.6.5	83	1	50
	30 tonne dumptruck	C.8.16	81	1	50
	Concrete pump	C.3.25	78	1	50
	Tracked mobile crane	C.3.29	70	1	50

The plant inventory for construction phases 2 and 3 are identical to construction phase 1.

Table A.5: Plant list and plant noise levels for construction activity 5 – Beach recharge

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Tracked excavator	C.6.5	83	1	50
	Bulldozer	C.6.28	85	1	50
	Wheeled loader	C.2.26	79	1	35
	Dredger	C.7.2	82	1	25
	Tug to manoeuvre pipeline ¹		84	1	5
2	Tug to manoeuvre pipeline		84	4	5
	Gas cutters	C.3.34	68	5	50
	Tracked excavator	C.6.5	83	2	50
	Wheeled loader	C.2.26	79	2	50

Table A.6: Plant list and plant noise levels for construction activity 6 – Site clearance

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Excavator	C.4.12	69	1	75
	Angle grinder (grinding steel)	C.4.93	80	1	75
	Hand Breaker / Pecker	C.5.2	83	1	75

Table A.7: Plant list and plant noise levels for construction activity 7 - Structures

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Concrete Pumps	C.3.25	78	1	50
	Concrete Mixer Trucks	C.4.20	80	1	30
	Tracker/wheeled excavator	C.4.65	71	1	75
	Large (75t) Mobile Cranes	C.4.39	71	1	75
	Vibrating pokers	C.4.33	78	1	50
	Powered hand tools (SDS drills and drivers)	C.2.44	77	1	75

Table A.8: Plant list and plant noise levels for construction activity 8 - Earthworks

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Tracked excavator	C.4.65	71	1	75
	Bulldozer	C.2.12	81	1	75
	Dumper	C.4.4	76	1	75
	Road roller	C.5.19	80	1	75

¹ Improvement Dredging for Lamma Power Station Navigation Channel, EIA Report Chapter 7 – Noise Improvement Assessment, 2017

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
	Tipper lorry	C.8.20	79	1	75

Table A.9: Plant list and plant noise levels for construction activity 9 - Drainage

Phase	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	JCB Excavator	C.4.17	71	1	75
	8t Excavator	C.2.25	69	1	75
	20t Excavator	C.4.64	75	1	75
	16t Excavator	C.4.65	71	1	75
	8t Dumper	C.4.4	76	1	75

Table A.10: Plant list and plant noise levels for construction activity 10 – Pavement Foundation Construction

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Roller Bomag BW 219 D-4	C.5.19	80	1	75
	Road planing equipment	C.5.7	82	1	75
	Road Wagons 8 wheeled 20t	C.8.20	79	3	75

Table A.11: Plant list and plant noise levels for construction activity 11 – Pavement construction

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	Roller Bomag 120	C.2.39	74	1	75
	Road planning equipment	C.5.7	82	1	75
	Roller Bomag BW 24	C.5.19	80	1	75
	Chipper for asphalt, machine to spread tack coats.	D.6.45	83	1	75
	Concrete cutting tools	C.4.71	85	1	75
	Telehandler	C.2.35	71	1	75
	JCB 2cx with hydraulic breaker	C.2.25	69	1	75
	Truck	C.8.15	79	1	75
	Paver	C.5.32	84	1	75

Table A.12: Plant list and plant noise levels for construction activity 12 – Signs and lines

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	3t Excavator	C.4.67	74	1	75
	Hi-ab	C.4.43	70	1	75
	12t white lining truck	C.5.7	82	1	75

Table A.13: Plant list and plant noise levels for construction activity 13 – VRS and lighting

Phase of Construction	Plant Description	BS5228 Plant Ref	L _{Aeq,10m} dB	Number of units	Operating %
1	3t Excavator	C.4.67	74	1	75
	Hi-ab	C.4.43	70	1	75



Appendix 14.2 – Noise and Vibration Construction Phase Road Traffic Noise



Colwyn Bay Waterfront Project Phase 2b Environmental Statement

Noise and Vibration Appendix 14.2: Construction
Phase Road Traffic Noise

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Noise and Vibration Appendix 14.2: Construction
Phase Road Traffic Noise

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A. Construction phase road traffic noise

Table A.1: Construction phase road traffic noise

Road name	HGV %	2021 (pre Scheme)		Construction Phase		'2021 (pre Scheme)' – 'Construction phase'		
		Total Vehicle Flow (AAWT)	Traffic Noise (façade) LA10,18hour dB	Total Vehicle Flow (AAWT)	Traffic Noise (façade) LA10,18hour dB	Change in total Vehicle Flow (AAWT)	Change in Traffic Noise LA10,18hour dB	Significant Adverse Effect
Cayley Promenade (north) northbound	6.00	1575	66	3951	67	+ 2376	+1	No
Cayley Promenade (north) southbound	6.00	1044		3420		+ 2376		
Cayley Promenade (centre) northbound	3.18	726	59	3102	65	+ 2376	+6	Yes
Cayley Promenade (centre) southbound	3.39	454		2830		+ 2376		
Cayley Promenade (south) northbound	3.18	984	54	3360	54	+ 2376	0	No
Cayley Promenade (south) southbound	3.39	684		3060		+ 2376		



Appendix 14.3 – Noise and Vibration Operational Phase Road Traffic Noise



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Noise and Vibration Appendix 14.3: Operational
Phase Road Traffic Noise

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A. Operational phase road traffic noise

Table A.1: Operational phase road traffic noise along Caley Promenade

Road name	HGV %	2021 'Do_Minimum'		2023 'Do Something'		'2021 Do Something' – 'Do Minimum'		
		Total Vehicle Flow (AAWT)	Traffic Noise (façade) LA10,18hour dB	Total Vehicle Flow (AAWT)	Traffic Noise (façade) LA10,18hour dB	Change in total Vehicle Flow (AAWT)	Change in Traffic Noise LA10,18hour dB	Significant Adverse Effect
Caley Promenade (north) northbound	6.00	1575	66	6618	69	+ 5043	+ 3	Yes
Caley Promenade (north) southbound	6.00	1044		4977		+ 3933		
Caley Promenade (centre) northbound	3.18	726	59	5574	67	+ 4848	+8	Yes
Caley Promenade (centre) southbound	3.39	454		4647		+ 4193		
Caley Promenade (south) northbound	3.18	984	54	5696	56	+ 4712	+ 2	No
Caley Promenade (south) southbound	3.39	684		4810		+ 4126		

Table A.2: Operational phase BNL along other local roads

Road name	HGV %	2023 'Do-Minimum'		2023 'Do Something'		2023 'Do-Something' – 'Do-Minimum'		
		Total Vehicle Flow (AAWT)	BNL Traffic Noise LA10,18hour dB	Total Vehicle Flow (AAWT)	BNL Traffic Noise LA10,18hour dB	Change in Total Vehicle Flow (AAWT)	Change in BNL Traffic Noise LA10,18hour dB	Significant Adverse Effect
Rhos Promenade northbound	6.00	6031	71	6179	71	+ 404	None	Neutral
Rhos Promenade southbound	6.00	5442		5442		0		
Whitehall Road eastbound	6.00	1530	64	1531	64	+ 1	None	Neutral
Whitehall Road westbound	6.00	1295		1237		- 58		
Llannerch Road East eastbound	3.18	428	59	506	59	+ 78	None	Neutral
Llannerch Road East westbound	3.18	535		482		0		
West Promenade (south) northbound	3.50	4712	70	5696	70	+ 984	None	Neutral
West Promenade (south) southbound	4.83	5126		5106		- 20		

