

Appendix O – Construction Plant Noise Data

Construction Plant Data

Activity	Qty	BS 5228 plant item	BS5228 Table Number	L _{Aeq} at 10m for 1 item of plant (dBA)	% on-time
1. Construction of a rock breakwater extending out from the North Pier					
Removal of concrete wave wall to provide permanent access to the new breakwater.	1	Breaker mounted on wheeled backhoe	C.1-1	92	20
Excavation of seabed	3	Long reach tracked excavator	C.7-1	77	20
Placing geotextile mat on seabed	2	Tracked excavator	C.2-18	75	10
Placing large rocks	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50
Placing core rock – medium size rock	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50
Concrete works for footpath	1	Wheeled mobile crane	C.5-37	79	5
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Poker vibrator	C.4-34	69	10
	1	Compressor for hand-held poker	C.5-5	66	10
Ancillaries – lighting, navigation markers	1	Wheeled mobile crane	C.5-37	79	5
	1	Vibratory piling rig	C.3-8	88	5
2. Rebuilding of the seaward head of South Pier					
Demolition of dilapidated parts of existing pier	1	Breaker mounted on wheeled backhoe	C.1-1	92	50
	1	Dumper	C.4-4	76	10
Piling (bored or other)???	1	Rotary bored piling rig	C.3-14	83	30
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
Piling – sheet piling	1	Vibratory piling rig	C.3-8	88	50
Wall grouting	1	Compressor for pumping	C.5-5	66	10

		Hand drill in concrete	D7-64	90	10
Building new pier	1	Wheeled mobile crane	C.5-37	79	5
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Poker vibrator	C.4-34	69	10
	1	Compressor for hand-held poker	C.5-5	66	10

3. Raising of parts of the harbour walls along Quay Parade and part of Pwll Cam

Removal of existing street furniture	1	Lorry with lifting boom	C.4-53	77	5
	1	Angle grinder (grinding steel)	C.4-93	81	5
Removal of existing wall.	1	Breaker mounted on wheeled backhoe	C.1-1	92	5
	1	Lorry with lifting boom	C.4-53	77	5
	1	Saw	C.4-70	91	5
Concrete works for new wall elements	1	Wheeled mobile crane	C.5-37	79	5
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Poker vibrator	C.4-34	69	10
	1	Compressor for hand-held poker	C.5-5	66	10
Installing glass wall elements	1	Lorry with lifting boom	C.4-53	77	5
	1	General hand tools	D2-15	84	5
Tilt barriers	1	Saw	C.4-70	91	5
	1	Hand-held pneumatic breaker	C.5-6	95	5
	1	Power Pack	C.3-7	73	5
	1	Lorry with lifting boom	C.4-53	77	5
	1	Lorry with lifting boom	C.4-53	77	5
Reinstalment of street furniture & lighting.	1	Lorry with lifting boom	C.4-53	77	5
	1	General hand tools	D2-15	84	5

4. Construction of a flood gate at Pwll Cam

Piling (percussive, bored or augured, plus anchor rods.	1	Vibratory piling rig	C.3-8	88	10
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Poker vibrator	C.4-34	69	10

Wall Strengthening	1	Breaker mounted on wheeled backhoe	C.1-1	92	10
	1	Wheeled mobile crane	C.5-37	79	5
	1	Compressor for pumping	C.5-5	66	10
	1	Hand drill in concrete	D7-64	90	10
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
New concrete gate abutments	1	Compressor for pumping	C.5-5	66	10
	1	Hand drill in concrete	D7-64	90	10
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Wheeled mobile crane	C.5-37	79	5
M&E (utility works)	1	Saw	C.4-70	91	5
	1	Hand-held pneumatic breaker	C.5-6	95	5
	1	Power Pack	C.3-7	73	5
Structural work to install flood gate	1	Wheeled mobile telescopic crane	C.4-38	78	10
		General hand tools	D2-15	84	5

5. Flood wall – Pwll Cam to A487 road bridge

New flood wall at Monachty hotel – on piles (10m section)	1	Vibratory piling rig	C.3-8	88	
	1	Concrete mixer truck (discharging) & concrete pump (pumping)	C.4-28	75	10
	1	Poker vibrator	C.4-34	69	10
Concrete shuttered wall with masonry cladding	1	Breaker mounted on wheeled backhoe	C.1-1	92	5
	1	Lorry with lifting boom	C.4-53	77	5
	1	Saw	C.4-70	91	5
Install concrete capping to existing wall	1	Breaker mounted on wheeled backhoe	C.1-1	92	5
	1	Lorry with lifting boom	C.4-53	77	5
	1	Saw	C.4-70	91	5
Drill in anchor rods into existing wall	1	Hand drill in concrete	D7-64	90	10
Installing glass wall elements	1	Lorry with lifting boom	C.4-53	77	5
	1	General hand tools	D2-15	84	5

6. Improvements to South Beach

Earth works – dig our shingle to place new rock armour	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50
Rock placement for Revetment	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50
Removal of timber groynes	1	Tracked excavator	C.6-6	81	50
	1	Chainsaw	D2-14	86	20

Pile drive groyne posts	2	Dumper	C.4-4	76	10
	2	Tracked excavator	C.6-6	81	50
Fix timbers to groynes	1	General hand tools	D2-15	84	5
	1	Lorry with lifting boom	C.4-53	77	5
Deposit shingle arisings from excavations from breakwater	2	Dozer	C.2-12	81	50
Placing large rocks with grab excavators	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50
Placing core rock – medium size rock	4	Dumper	C.4-4	76	10
	4	Tracked excavator	C.6-6	81	50

7. Site compound

Enabling works and compound fencing	2	Dumper	C.4-4	76	10
	2	Tracked excavator	C.6-6	81	50
	1	Road roller	C.5-19	80	20
On site equipment	1	Diesel generator	C.6-39	65	100

Best Practicable Means

Throughout any construction programme the intention should always be to minimise site noise levels whilst having due regard to the practicability and economic implication of any control or mitigation measure.

Best Practicable Means (BPM) as defined in Section 72 of the Control of Pollution Act will be employed at all times to reduce noise and vibration to a minimum. BPM are defined in section 72 of the Control of Pollution Act 1974 and Section 79 of the Environment Protection Act 1990 as those measures which are 'reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications'.

The potential noise effects of the works will be minimised using recommendations and good practice for noise control measures, as suggested by BS5228. The following outlines the general control measures specified for the works:

- All plant and equipment should be examined on a daily basis, for defects prior to the start of works and under no circumstances will defective plant be used.
- Avoid unnecessary revving of engines and switched off all equipment and plant when not in use. Where this is not practicable, plant will be throttled down to a minimum when not in use.
- Keep internal haul routes well maintained and avoid steep gradients.
- Start up plant and vehicles sequentially rather than all together.
- All compressors and generators should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use.
- All vehicles, plant and machinery used during the operations will be fitted with effective exhaust silencers and all parts of such vehicles, plant or machinery, will be maintained in good order and repair and be in accordance with the manufacture's recommendations.
- Avoid any reversing on site as far as reasonably practicable. If reversing is required, utilise broad band low impact reversing alarms.
- Stationary or static noisy plant or equipment which is used during works will be sited so as to minimise the noise impact to noise sensitive receptors.
- Where practicable, plant with directional noise characteristics should be orientated to minimise noise at nearby properties.
- Plant should not be louder than the noise levels provided in Annex C and D of BS 5228-1.
- If alternative plant is substituted for any of those included in this application these will be equal or quieter in noise level.
- All pneumatic percussive tools should be fitted with mufflers or suppressors as recommended by the manufacturers which should be kept in a good state of repair.
- Where appropriate, temporary noise barriers or other noise containment measures should be installed to minimise construction noise levels.
- The loading or unloading of vehicles and the movement of equipment or materials should be undertaken in a manner that minimises noise generation.
- Cleaning of concrete mixers should not be undertaken by hammering the drums.
- When handling materials, care should be taken not to drop materials from excessive heights.
- Speed restrictions should be implemented for all worksites and haul routes for safety, but also to control noise emissions.
- Percussive piling should be avoided where practicable for the lower vibration and noise generating vibratory or auger rotary piling.
- Ensuring that all staff and operatives are briefed on the requirement to minimise nuisance from site activities, via tool box talks etc.

- An important element of the pro-active approach to limiting the likely significant effects of works will be to ensure that the local community have been kept fully informed over the scale and nature of the works, when they are to take place, and who to contact if disturbed by the construction activities.