



**Haweswater Aqueduct Resilience Programme - Proposed Marl Hill
Section**

Volume 6

Proposed Ribble Crossing

Appendix 17.2: Construction Plant List

June 2021



Water for the North West



Haweswater Aqueduct Resilience Programme - Proposed Marl Hill Section

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1. Construction Plant List

Table 1: Plant List for Enabling Works

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
Set up compounds and welfare, including site clearance, minor earthworks and compacted stone laydown (indicative date of early May 2023, 2-weeks, to be confirmed by main contractor once appointed)				
Supersilent Generator	1	60	100	C4.77
30t Excavator (14t at compound to north of scheme)	2	78 (70)	80	C2.3 (C2.7)
5t Excavator	2	65	80	C4.68
6t Dumper	1	74	40	C2.32
Telehandler	1	71	40	C4.55
Compressor	1	66	20	C5.5
Lighting Towers	5	64	20	C4.79
Road sweeper	1	76	40	C4.90
Wheel Wash	1	70	20	TA
Jet Wash	1	63	40	C3.13
Waste water pump surface	1	69	20	C4.88
Misc. hand tools	1	70	40	M
Service diversions and stock-proof fencing (indicative date of June to July 2023 4-weeks, to be confirmed by main contractor once appointed)				
Supersilent Generator	1	60	100	C4.77
30t Excavator	1	78	40	C2.3
5t Excavator	1	65	80	C4.68
6t Dumper	1	74	40	C2.32
Telehandler	1	71	40	C4.55
Compressor	1	66	20	C5.5
Lighting Towers	5	64	20	C4.79
Concrete Wagon	1	73	20	M
Waste water pump surface	1	69	20	C4.88
Misc. hand tools	1	70	40	M
Vibratory Plate	1	80	30	C2.41
Construction of bridge working area access and working areas for bridge platforms (indicative date of May – June – August 2023 8 weeks, to be confirmed by main contractor once appointed)				
Drainage (10 weeks)				
30t Excavator	1	78	40	C2.3

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
5t Excavator	1	65	80	C4.68
Wheeled Loader	2	79	80	C2.26
Dumper (idling)	2	63	40	C4.5
Dump Truck (tipping fill)	2	79	40	C2.30
Roller (rolling fill)	1	80	40	C2.37
Vibratory Roller	1	75	40	C5.20
Tracked Excavator	1	78	80	C2.3
Dozer	1	79	80	C2.11
Wheeled mobile telescopic crane	1	78	30	C4.38

NOTES

Note 1 - BS 5228-1 noise source terms have been used (namely, tables C.1 to C.12) where manufacturer or measurement data is unavailable. The ECI contractor has made technical assumptions, based on previous project experience, for sources not available within BS 5228-1. 'M' denotes measured data, 'Man' denotes manufacturer's data and 'TA' denotes technical assumption.

Generators are generally assessed with an assumed on-time of 100%. This is considered a reasonable worst-case approach as power demand will fluctuate throughout the working day.

Table 2: Plant List for Route Construction Works

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
Earthworks within Laydown areas (indicative date of June - August 2023, 12-weeks, to be confirmed by main contractor once appointed)				
30t Excavator	1	78	80	C2.3
Dumper (idling)	1	63	40	C4.5
Dump Truck (tipping fill)	1	79	40	C2.30
Route construction – earthworks (indicative date of June – August 2023, 12 weeks, to be confirmed by main contractor once appointed)				
Earthworks (10 weeks)				
30t Excavator	1	78	40	C2.3
5t Excavator	1	65	80	C4.68
Wheeled Loader	2	79	40	C2.26
Dumper (idling)	2	63	40	C4.5
Dump Truck (tipping fill)	2	79	40	C2.30
Roller	1	80	40	C2.37
Vibratory Roller	1	75	40	C5.20

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
Dozer	1	79	80	C2.11
Road Grader	1	87	40	C6.31
Haul Road Main Works (indicative date of June – August 2023, 12 weeks, to be confirmed by main contractor once appointed)				
Drainage (10 weeks)				
30t Excavator	1	78	40	C2.3
5t Excavator	1	65	80	C4.68
Dumper (idling)	2	63	40	C4.5
Dump Truck (tipping fill)	2	79	40	C2.30
Tracked Excavator	1	78	80	C2.3
Concrete Wagon	1	73	20	M
Misc hand tools	1	70	40	M
Haul Road Main Works (indicative date of June – August 2023, 12 weeks, to be confirmed by main contractor once appointed)				
Pavement Construction (12 weeks)				
Road Grader	1	87	40	C6.31
30t Excavator	1	78	40	C2.3
5t Excavator	1	65	80	C4.68
Road Paver	1	77	40	C5.31
Tandem Vibratory Road	1	75	40	C5.20
Compressor	1	75	80	C3.19
30t 360 excavator	2	75	80	C4.64
Dump truck	1	79	40	C2.30
Mini excavator with hydraulic breaker	1	83	40	C5.2
Deliveries	2	82	40	C11.9
Misc Hand Tools	1	70	40	M
NOTES				
Note 1 - BS 5228-1 noise source terms have been used (namely, tables C.1 to C.12) where manufacturer or measurement data is unavailable. The ECI contractor has made technical assumptions, based on previous project experience, for sources not available within BS 5228-1. 'M' denotes measured data, 'Man' denotes manufacturer's data and 'TA' denotes technical assumption.				

Table 3: Plant List for Bridge Works

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
Bridge Works (indicative date of June – September 2023, to be confirmed by main contractor once appointed)				
Piled Foundations (indicative date of June 2023, 3 weeks, to be confirmed by main contractor once appointed)				
13t Excavator	2	70	32	C2.7
Concrete Pump	1	72	40	M
Mobile Crane	1	70	36	C3.30
Welding set	1	74	8	C3.32
Compressor	1	75	8	C3.19
Mobile Elevated Working Platform	1	67	4	C4.57
Pressure Washer	1	81	20	C6.37
Drilling Rig	1	88	68	C3.8
Cage Vibrator	1	67	8	Man
Concrete Lorry	1	80	32	C4.20
Bentonite Mixer	1	68	40	Man
Mud Plant	1	68	32	M
Electric Pump	1	59	52	Man
Diesel Pump	1	62	40	C2.46
Concrete pokers	3	69	8	C4.34
Bridge Works (indicative date of June – September 2023, to be confirmed by main contractor once appointed)				
Abutments & Piers (indicative date of July 2023, 5 weeks, to be confirmed by main contractor once appointed)				
13t Excavator	2	70	32	C2.7
Concrete Pump	1	72	40	M
Mobile Crane	1	70	75	C3.30
Welding set	1	74	8	C3.32
Compressor	1	75	8	C3.19
Mobile Elevated Working Platform	1	67	4	C4.57
Pressure Washer	1	81	20	C6.37
Concrete pokers	3	69	8	C4.34
Bridge Works (indicative date of June – September 2023, to be confirmed by main contractor once appointed)				
Modular Bridge Installation (indicative date of August/September 2023, 4 weeks, to be confirmed by main contractor once appointed)				

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
13t Excavator	2	70	32	C2.7
Mobile Crane	1	70	75	C3.30
Hydraulic Cylander (hydraulic power pack)	1	70	50	C3.7
Mobile Elevated Working Platform	1	67	4	C4.57
Tracked Excavator	1	78	40	C2.3
Deliveries	2	82	40	C11.9
Misc Hand Tools	1	70	8	M
<p>NOTES</p> <p>Note 1 - BS 5228-1 noise source terms have been used (namely, tables C.1 to C.12) where manufacturer or measurement data is unavailable. The ECI contractor has made technical assumptions, based on previous project experience, for sources not available within BS 5228-1. 'M' denotes measured data, 'Man' denotes manufacturer's data and 'TA' denotes technical assumption.</p>				

Table 4: Cabin Generator – Operational Phase

Plant	No.	Sound Pressure Level @10m (L _{PA})	Percentage on-time	BS522-1 noise source ¹⁾
Site Cabin (throughout use of road, 6 years, to be confirmed by main contractor once appointed)				
Generator	1	60	90	C4.77
<p>NOTES</p> <p>Note 1 - BS 5228-1 noise source terms have been used (namely, tables C.1 to C.12) where manufacturer or measurement data is unavailable. The ECI contractor has made technical assumptions, based on previous project experience, for sources not available within BS 5228-1. 'M' denotes measured data, 'Man' denotes manufacturer's data and 'TA' denotes technical assumption.</p> <p>Generators are generally assessed with an assumed on-time of 100%. This is considered a reasonable worst-case approach as power demand will fluctuate throughout the working day.</p>				