

# **Environmental Impact Assessment Report (EIAR)**

## **Volume 6 of 6: Appendices**

### **(Appendix A6.3) Construction Noise Plant Lists**

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### Acronyms and Abbreviations

Acronym	Meaning
BPS	Booster Pumping Station.
BPT	Break Pressure Tank.
dB(A)	An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'-weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
FCV	Flow Control Valve
$L_{Aeq,T}$	This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T).
PSD	Pipe Storage Depot
RWRM	Raw Water Rising Mains.
RWI&PS	Raw Water Intake & Pumping Station.
TPR	Termination Point Reservoir.
WTP	Water Treatment Plant.

## 1. Construction Calculation Plant Lists

### 1.1 Introduction

- The following sections outline the plant lists and associated noise levels that have been used in the construction noise assessment presented in Chapter 6 (Noise and Vibration) of the Environmental Impact Assessment Report. All plant lists and percentage on-times were provided by the design team and noise levels derived from British BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise (BSI 2014).

### 1.2 Temporary Infrastructure Sites

Table A6.3.1: Construction Compound and Pipe Storage Depot (PSD) Works Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	20%	BS 5228-1:2009 Table C.10:3	83	76
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Excavations and Concrete Foundations	Tracked excavator c/w Ripper attachment	40%	BS 5228-1:2009 Table C.4:63	77	73
	Dump Truck	40%	BS 5228-1:2009 Table C.5:16	81	77
	Tractor and Trailer	40%	BS 5228-1:2009 Table C.4:75	79	75
	Wheeled Lorry Loader	20%	BS 5228-1:2009 Table C.10:3	83	76
	Concrete mixer truck	10%	BS 5228-1:2009 Table C.4:20	80	70
	Compressor	10%	BS 5228-1:2009 Table C.5:5	65	55
	Poker Vibrator	10%	BS 5228-1:2009 Table C.4:33	78	68
Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Site Services (Temporary)	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Sump pump	20%	BS 5228-1:2009 Table C.4:88	68	61
	Compaction equipment (wacker plate)	5%	BS 5228-1:2009 Table C.2:41	80	67
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled Lorry Loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Water bowser	5%	BS 5228-1:2009 Table C.6:37	81	68
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled Lorry Loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Roadworks, Landscaping	Asphalt Paver and Tipping Lorry	50%	BS 5228-1:2009 Table C.5:30	75	72
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>72</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled Lorry Loader	20%	BS 5228-1:2009 Table C.10:3	83	76
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	

### 1.3 38kV Uprate Works

Table A6.3.2: 38kV Uprate Works Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Excavations and below ground concrete structures	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Pneumatic breaker	40%	BS 5228-1:2009 Table D.2:2	81	80
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Sump pump	50%	BS 5228-1:2009 Table C.4:88	68	65
	Compaction equipment (wacker plate)	5%	BS 5228-1:2009 Table C.2:41	80	67
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Reinstatement	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Compaction equipment (road roller)	10%	BS 5228-1:2009 Table C.5:19	80	70
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
	<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>

## 1.4 Raw Water Intake and Pumping Station (RWI&PS)

### Infrastructure Site

Table A6.3.3: RWI&PS Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Excavations and below ground concrete structures	Continuous Flight Auger Piling Rig	80%	BS 5228-1:2009 Table C.12:42	82	82
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Tracked semi-mobile crusher	20%	BS 5228-1:2009 Table C.9:14	90	83
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Pneumatic breaker	80%	BS 5228-1:2009 Table D.2:2	81	80
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled Lorry Loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
Compaction equipment (wacker plate)	10%	BS 5228-1:2009 Table C.2:41	80	70	

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Concrete Pump	50%	BS 5228-1:2009 Table C.3:26	75	72
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>89</b>	
Construction of above ground structures	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Compressor	30%	BS 5228-1:2009 Table C.5:5	65	60
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
	Generator	30%	BS 5228-1:2009 Table C.4:76	61	56
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Construction of Building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tipper lorry	40%	BS 5228-1:2009 Table C.8:20	79	75
	Concrete Lorry	40%	BS 5228-1:2009 Table C.4:20	80	76
	Wheeled mobile crane	40%	BS 5228-1:2009 Table C.5:37	76	72
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Pneumatic circular saw	40%	BS 5228-1:2009 Table D.7:79	75	71
	Generator	40%	BS 5228-1:2009 Table C.4:76	61	57
Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled Lorry Loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump Truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Sump Pump	80%	BS 5228-1:2009 Table C.4:88	68	67

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Compaction equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	20%	BS 5228-1:2009 Table C.10:3	83	76
	Compaction equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled Lorry Loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled Lorry Loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.5 Water Treatment Plant (WTP)

### Infrastructure Site

Table A6.3.4: WTP Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Bulldozer	80%	BS 5228-1:2009 Table C.5:15	83	82
	Vibratory roller	20%	BS 5228-1:2009 Table C.5:20	75	68
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Excavations and below ground concrete structures	Continuous Flight Auger Piling	80%	BS 5228-1:2009 Table C.12:42	83	82
	Compressor	80%	BS 5228-1:2009 Table C.5:5	65	64
	Poker vibrator	50%	BS 5228-1:2009 Table C.4:33	78	75
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Pneumatic Breaker	5%	BS 5228-1:2009 Table D.2:2	81	68
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Pneumatic circular saw	20%	BS 5228-1:2009 Table D.7:79	75	68
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (wacker plate)	10%	BS 5228-1:2009 Table C.2:41	80	70
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>88</b>	
Construction of above ground structures	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Compressor	80%	BS 5228-1:2009 Table C.5:5	65	64
	Pneumatic circular saw	20%	BS 5228-1:2009 Table D.7:79	75	68
	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Tipper lorry	20%	BS 5228-1:2009 Table C.8:20	79	72
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Poker vibrator	50%	BS 5228-1:2009 Table C.4:33	78	75
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	
Construction of Building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tipper lorry	40%	BS 5228-1:2009 Table C.8:20	79	75
	Concrete Lorry	40%	BS 5228-1:2009 Table C.4:20	80	76
	Wheeled mobile crane	40%	BS 5228-1:2009 Table C.5:37	76	72
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Pneumatic circular saw	40%	BS 5228-1:2009 Table D.7:79	75	71
	Generator	40%	BS 5228-1:2009 Table C.4:76	61	57
	Mobile Platform	40%	BS 5228-1:2009 Table C.4:57	67	63

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.6 Break Pressure Tank (BPT)

### Infrastructure Site

Table A6.3.5: BPT Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Excavations and concrete foundations	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Tracked semi-mobile crusher	20%	BS 5228-1:2009 Table C.9:14	90	83
	Pneumatic breaker	80%	BS 5228-1:2009 Table D.2:2	81	80
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Wheeled mobile crane	10%	BS 5228-1:2009 Table C.5:37	76	66
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Compaction Equipment (wacker plate)	10%	BS 5228-1:2009 Table C.2:41	80	70
Concrete pump	25%	BS 5228-1:2009 Table C.3:26	75	69	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>88</b>	
Construction of Above Ground structures	Compressor	30%	BS 5228-1:2009 Table C.5:5	65	60
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	25%	BS 5228-1:2009 Table C.4:20	80	74
	Concrete pump	25%	BS 5228-1:2009 Table C.3:26	75	69
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
Generator	80%	BS 5228-1:2009 Table C.4:76	61	60	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Construction of building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tipper lorry	40%	BS 5228-1:2009 Table C.8:20	79	75
	Concrete lorry	40%	BS 5228-1:2009 Table C.4:20	80	76
	Wheeled mobile crane	40%	BS 5228-1:2009 Table C.5:37	76	72
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Pneumatic circular saw	40%	BS 5228-1:2009 Table D.7:79	75	71
	Generator	40%	BS 5228-1:2009 Table C.4:76	61	57
	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	75
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.7 Booster Pumping Station (BPS)

### Infrastructure Site

Table A6.3.6: BPS Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Excavations and Below Ground Concrete Structures	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	50%	BS 5228-1:2009 Table C.4:20	80	77
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Tracked semi-mobile crusher	20%	BS 5228-1:2009 Table C.9:14	90	83
	Wheeled mobile crane	10%	BS 5228-1:2009 Table C.5:37	76	66
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Pneumatic breaker	80%	BS 5228-1:2009 Table D.2:2	81	80
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Compaction Equipment (wacker plate)	10%	BS 5228-1:2009 Table C.2:41	80	70
Concrete pump	25%	BS 5228-1:2009 Table C.3:26	75	69	

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>88</b>	
Construction of Above Ground Structures	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Concrete pump	25%	BS 5228-1:2009 Table C.3:26	75	69
	Mobile concrete plant	25%	BS 5228-1:2009 Table C.4:20	80	74
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Compressor	30%	BS 5228-1:2009 Table C.5:5	65	60
Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	
Construction of Building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tipper lorry	40%	BS 5228-1:2009 Table C.8:20	79	75
	Concrete lorry	40%	BS 5228-1:2009 Table C.4:20	80	76
	Wheeled mobile crane	40%	BS 5228-1:2009 Table C.5:37	76	72
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Pneumatic circular saw	40%	BS 5228-1:2009 Table D.7:79	75	71
	Generator	40%	BS 5228-1:2009 Table C.4:76	61	57
Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Roadworks, landscaping	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Reinstatement	Tractor mounted Flat Lift Ripper	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.8 (FCV) Flow Control Valve

### Infrastructure Site

Table A6.3.7: FCV Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	
Excavations and Below Ground Concrete Structures	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Pneumatic breaker	40%	BS 5228-1:2009 Table D.2:2	81	77
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Construction of FCV chamber	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72
	Concrete mixer truck	50%	BS 5228-1:2009 Table C.4:20	80	77
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Pneumatic breaker	40%	BS 5228-1:2009 Table D.2:2	81	77
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	
Construction of Building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Mobile concrete plant	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tipper lorry	40%	BS 5228-1:2009 Table C.8:20	79	75
	Concrete lorry	40%	BS 5228-1:2009 Table C.4:20	80	76
	Wheeled mobile crane	40%	BS 5228-1:2009 Table C.5:37	76	72
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Pneumatic circular saw	40%	BS 5228-1:2009 Table D.7:79	75	71
	Generator	40%	BS 5228-1:2009 Table C.4:76	61	57
Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Wheeled mobile crane	50%	BS 5228-1:2009 Table C.5:37	76	73
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	10%	BS 5228-1:2009 Table C.5:19	80	70
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.9 Termination Point Reservoir (TPR)

### Infrastructure Site

Table A6.3.8TPR Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Excavations/ concrete foundations and substructures	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Concrete mixer truck	10%	BS 5228-1:2009 Table C.4:20	80	70
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
	Tracked semi-mobile crusher	20%	BS 5228-1:2009 Table C.9:14	90	83
	Wheeled mobile crane	10%	BS 5228-1:2009 Table C.5:37	76	66
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Pneumatic breaker	80%	BS 5228-1:2009 Table D.2:2	81	80
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73	

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Compaction Equipment (wacker plate)	10%	BS 5228-1:2009 Table C.2:41	80	70
	Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>88</b>	
Construction of Above Ground Structures	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Mobile platform	40%	BS 5228-1:2009 Table C.4:57	67	63
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:20	80	76
	Concrete mixer truck	10%	BS 5228-1:2009 Table C.4:33	78	68
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
Concrete pump	40%	BS 5228-1:2009 Table C.3:26	75	71	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Construction of building	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Poker vibrator	10%	BS 5228-1:2009 Table C.4:33	78	68
	Mobile concrete plant	25%	BS 5228-1:2009 Table C.4:20	80	74
	Concrete pump	25%	BS 5228-1:2009 Table C.3:26	75	69
	Tipper lorry	5%	BS 5228-1:2009 Table C.8:20	79	66
	Concrete lorry	10%	BS 5228-1:2009 Table C.4:20	80	70
	Wheeled mobile crane	10%	BS 5228-1:2009 Table C.5:37	76	66
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
Mobile platform	20%	BS 5228-1:2009 Table C.4:57	67	60	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>80</b>	
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Tractor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Compressor	5%	BS 5228-1:2009 Table C.5:5	65	52
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Sump pump	80%	BS 5228-1:2009 Table C.4:88	68	67

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Compaction Equipment (wacker plate)	20%	BS 5228-1:2009 Table C.2:41	80	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.10 Termination Point Reservoir (TPR) South East

### Infrastructure Site

Table A6.3.9TPR South East Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site clearing and preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>82</b>	
Excavations/ concrete foundations and substructures	Pneumatic breaker	50%	BS 5228-1:2009 Table D.2:2	81	78
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Temporary Laydown Area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and Trailor	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Roadworks, landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tipper lorry	80%	BS 5228-1:2009 Table C.8:20	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Compaction Equipment (road roller)	20%	BS 5228-1:2009 Table C.5:19	80	73
	Asphalt paver and tipping lorry	80%	BS 5228-1:2009 Table C.5:30	75	74
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Reinstatement	Tractor mounted Flat Lift Rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	

## 1.11 Treated Water Pipeline Construction

### Pipeline

Table A6.3.10: Pipeline Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Establishing wayleave, fencing, clearing hedgerows, tree felling, interceptor drains	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	
Excavations and Below Ground Structures	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Pneumatic breaker	40%	BS 5228-1:2009 Table D.2:2	81	77
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84.</b>	
Road Works, Landscaping	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Road roller	20%	BS 5228-1:2009 Table C.5:19	80	73
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	5%	BS 5228-1:2009 Table C.8:20	79	66
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Wheeled mobile crane	50%	BS 5228-1:2009 Table C.5:37	76	73
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Sump pump	50%	BS 5228-1:2009 Table C.4:88	68	65
	Compaction Equipment (wacker plate)	5%	BS 5228-1:2009 Table C.2:41	80	67
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Pipe welding equipment	80%	BS 5228-1:2009 Table C.3:31	73	72
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Cathodic Protection System	Percussive boring drilling rig	80%	BS 5228-1:2009 Table C.2:43	74	73
	Rotary coring drilling rig	80%	BS 5228-1:2009 Table C.3:14	83	82
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Tracked excavator	10%	BS 5228-1:2009 Table C.4:63	77	67
	Dump truck	10%	BS 5228-1:2009 Table C.5:16	81	71
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>83</b>	
Installation of valve chambers	Tracked excavator	50%	BS 5228-1:2009 Table C.4:63	77	74
	Dump truck	20%	BS 5228-1:2009 Table C.5:16	81	74
	Tractor and trailer	20%	BS 5228-1:2009 Table C.4:75	79	72
	Pneumatic circular saw	5%	BS 5228-1:2009 Table D.7:79	75	62
	Poker vibrator	10%	BS 5228-1:2009 Table C.4:33	78	68
	Concrete mixer truck	10%	BS 5228-1:2009 Table C.4:20	80	70
	Sump pump	50%	BS 5228-1:2009 Table C.4:88	68	65
Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	
Reinstatement	Tractor mounted flat lift rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.12 Piling Along Pipeline Construction

Table A6.3.11: Piling Along Pipeline Construction Calculation Plant List (Methods 2,3 and 4 of Working in Peat)

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Piling along Pipeline Construction (Methods 2,3 and 4)	Pre cast concrete piling – Hydraulic Hammer Rig	100%	BS 5228-1:2009 Table C.3:1	89	89
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>89</b>	

## 1.13 Tunnel Pipe Jacking (Trenchless Crossings)

### Pipeline

Table A6.3.12 Tunnel Pipe Jacking (Trenchless Crossings) Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Site Clearing and Preparation	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	
Excavations and Below Ground Concrete Structures	Compressor	80%	BS 5228-1:2009 Table C.5:5	65	64
	Tracked excavator c/w Ripper attachment	80%	BS 5228-1:2009 Table C.4:63	77	76
	Pneumatic breaker	40%	BS 5228-1:2009 Table D.2:2	81	77
	Pneumatic circular saw	10%	BS 5228-1:2009 Table D.7:79	75	65
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Sump pump	100%	BS 5228-1:2009 Table C.4:88	68	68
	Compaction Equipment (wacker plate)	5%	BS 5228-1:2009 Table C.2:41	80	67
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Poker vibrator	40%	BS 5228-1:2009 Table C.4:33	78	74
	Articulated lorry	10%	BS 5228-1:2009 Table C.6:17	85	75
	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
Concrete pump	50%	BS 5228-1:2009 Table C.3:26	75	72	
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	
Temporary laydown area	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Dump truck	80%	BS 5228-1:2009 Table C.5:16	81	80
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>84</b>	
Pipe installation and backfilling	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Articulated lorry	40%	BS 5228-1:2009 Table C.6:17	85	81
	Compressor	40%	BS 5228-1:2009 Table C.5:5	65	61
	Pneumatic circular saw	10%	BS 5228-1:2009 Table C.7:79	75	65
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Mixing plant	80%	BS 5228-1:2009 Table D.6:13	80	79
	Separation plant	80%	BS 5228-1:2009 Table C.4:76	61	60
	Supply pump	80%	BS 5228-1:2009 Table D.7:66	72	71

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Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
	Jacking station	80%	Below ground and fully screened so it is expected that no significant airborne noise will be emitted	-	-
	Shield (tunnelling) machine	80%	Below ground and fully screened so it is expected that no significant airborne noise will be emitted	-	-
	Sump pump	100%	BS 5228-1:2009 Table C.4:88	68	68
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
	Tipper lorry	10%	BS 5228-1:2009 Table C.8:20	79	69
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	
Reinstatement	Tractor mounted flat lift rippers	80%	BS 5228-1:2009 Table C.4:74	80	79
	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	67
	Dump truck	50%	BS 5228-1:2009 Table C.5:16	81	78
	Wheeled lorry loader	50%	BS 5228-1:2009 Table C.10:3	83	80
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>85</b>	
Remove wayleave and fencing and interceptor drains. Re-establish existing boundaries	Tracked excavator	80%	BS 5228-1:2009 Table C.4:63	77	76
	Tractor and trailer	80%	BS 5228-1:2009 Table C.4:75	79	78
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	73
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

Table A6.3.13 Night Time Trenchless Crossings Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Pipe installation and backfilling	Wheeled mobile crane	80%	BS 5228-1:2009 Table C.5:37	76	75
	Generator	80%	BS 5228-1:2009 Table C.4:76	61	60
	Mixing plant	80%	BS 5228-1:2009 Table D.6:13	80	79
	Separation plant	80%	BS 5228-1:2009 Table C.4:76	61	60
	Supply pump	80%	BS 5228-1:2009 Table D.7:66	72	71
	Jacking station	80%	Below ground and fully screened so no significant airborne noise assumed	-	-
	Shield (tunnelling) machine	80%	Below ground and fully screened so no significant airborne noise assumed	-	-
	Sump pump	100%	BS 5228-1:2009 Table C.4:88	68	68
	Wheeled lorry loader	10%	BS 5228-1:2009 Table C.10:3	83	-
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>81</b>	

## 1.14 Directional Drilling

Table A6.3.14 Directional Drilling Construction Calculation Plant List

Phase	Plant Item	Percentage On-Time Per Day	BS5228 Ref	L <sub>Aeq</sub> at 10m	L <sub>Aeq,T</sub> at 10m With Percentage On-Time Correction
Directional drilling	HDD – Tracked Hydraulic Drilling Rig	100%	BS 5228-1:2009 Table C.6:35	86	86
<b>L<sub>Aeq</sub> at 10m used for assessment (includes on-time correction)</b>				<b>86</b>	