

Appendix 8.2

Summary of Assumptions for Construction Noise Predictions

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Table 1 Construction plant assumptions – SRFI earthworks

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
H) Bulk Earthworks and On-Site Infrastructure	70T tracked excavator	2	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	40T tracked excavator	3	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	30T tracked excavator	5	90	C2.16	Tracked Excavator, 170 kW - 30t	75
	30T articulated dumper	15	90	C4.1	Articulated dump truck*, 194 kW - 25t	81
	18T tracked dozer	8	90	C2.12	Dozer, 142 kW - 20t	81
	20T single drum roller	6	90	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	Tractor	2	40	-	Tractor (adjusted, C4.04 Spectrum +10 dB)	86
	Road paver	1	60	C5.31	Asphalt paver (+tipper lorry), 94 kW - 18t	77
	Tractor and bowser	1	50	-	Tractor (adjusted, C4.04 Spectrum +7 dB)	86
I) Main Farm Building Demolition	35T Excavator	2	90	C1.13	Tracked excavator, 205 kW, - 40t	86
	Breaker on tracked excavator	1	40	C1.09	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	Crusher	1	50	C1.15	Tracked Crusher	84
J) Main Site Groundworks	20T Tracked Excavator	2	60	C2.3	Tracked Excavator, 102 kW - 22t	78
	12T Tracked Excavator	2	60	C2.5	Tracked Excavator, 72 kW - 16t	76
	12T Dumper	4	40	C2.6	Articulated dump truck (tipping fill), 187 kW - 23t	74
	Twin roller	2	30	C2.7	Roller (rolling fill)*, 145 kW - 18t	79
	Disc cutter	5	5	C2.8	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
K) Rail Terminal Ground works	20T Tracked Excavator	3	60	C2.9	Tracked Excavator, 102 kW - 22t	78
	8T Tracked Excavator	3	60	C2.10	Tracked Excavator 41 8t	71
	20T single drum roller	2	30	C2.11	Roller (rolling fill)*, 145 kW - 18t	79
	Twin Drum Roller	2	20	C2.12	Roller (rolling fill)*, 145 kW - 18t	79
	A35 Dumper	5	20	C2.13	Articulated dump truck*, 194 kW - 25t	81
	12T Dumper	5	30	C2.14	Articulated dump truck*, 187 KW - 23t	81
	Heavy Breaker on Excavator	1	20	C2.15	Breaker mounted on excavator, 121kW, - (15t) 1650kg breaker	90
	Disc Cutter	5	5	C2.16	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Concrete Pump	1	100	C2.17	Concrete Pump	75

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Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
K) Rail Terminal Ground works	Concrete Pokers	3	30	C2.18	Poker Vibrator	78
	Power Float	3	100	-	Power Float (adjusted spectrum C4.90 - 1dB)	75

Table 2 Construction plant assumptions – SRFI railway construction

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
M. Container loading area	Concrete pump	1	90	C3.26	Concrete Pump	75
	Concrete pokers	4	50	C4.33	Poker Vibrator	78
	20t excavator	2	65	C2.03	Tracked Excavator, 102 kW - 22t	78
	Small tools	2	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
N. Ballast works	20t excavator	2	75	C2.03	Tracked Excavator, 102 kW - 22t	78
	10t dumper	1	75	C4.04	Dumper*, 75 kW - 9t	76
	D5 dozer	1	75	C2.12	Dozer, 142 kW - 20t	81
O. P way work	20t excavator	2	75	C2.03	Tracked Excavator, 102 kW - 22t	78
	Road rail excavator	1	60	C2.03	Tracked Excavator, 102 kW - 22t	78
P. Walkways	10t dumper	1	75	C4.04	Dumper*, 75 kW - 9t	76
	Wacker plate	1	20	C2.41	Vibratory plate (petrol), 3 kW, 62 kg	80
	8t excavator	1	75	C4.17	Tracked Excavator 41 8t	71

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Table 3 Construction plant assumptions – SRFI roads, car park and warehouse construction

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
Qa. Road Construction - Part 1	35T excavator	3	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	35T Dumpers	8	90	C4.01	Articulated dump truck*, 194 kW - 25t	81
	D6 Dozer	2	70	C2.12	Dozer, 142 kW - 20t	81
	20T vibrating rollers	4	70	C5.22	Vibratory roller*, 92 kW - 12t	81
Qb. Road Construction - Part 2	20T tracked excavators	3	60	C2.03	Tracked Excavator, 102 kW - 22t	78
	twin drum rollers	2	30	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	9T dumpers	4	30	C4.04	Dumper*, 75 kW - 9t	76
	Disc Cutters	2	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
Qc. Road Construction - Part 3	Asphalt paver	1	60	C5.31	Asphalt paver (+tipper lorry), 94 kW - 18t	77
	10T rollers	2	50	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	Floor saw	1	5	C4.71	Circular bench saw (petrol-cutting concrete blocks)	85
	Hand held breaker	1	5	C5.4	Road breaker (hand-held pneumatic)	86
	<i>compressor for breaker</i>	1	5	C5.5	Compressor for hand-held pneumatic breaker, 1t	65
	Back hoe hydraulic breaker	1	5	C5.1	Backhoe mounted hydraulic breaker, 67 kW	88
R. Concreting Activities	Concrete Silo and Ready Mix Lorries	10	75	C4.20	Concrete Mixer Truck	80
	Diesel Generators	2	100	C4.78	Diesel generator	66
	Concrete Saw	2	30	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Poker vibrator	5	50	C4.33	Poker Vibrator	78
	Concrete Pumps	2	50	C4.30	Truck mounted concrete pump & Boom arm	79
	Power Float	2	100	-	Power Float (adjusted spectrum C4.90 - 1dB)	75
S. Main Build	Mobile Crane	3	80	C4.39	Mobile telescopic crane (315kW 80t)	77
	Diesel Generators	4	100	C4.78	Diesel generator	66
	Hydraulic Access Platform	10	80	C4.57	Lifting Platform 35kW 8t	67
	Concrete Pumps	2	50	C4.30	Truck mounted concrete pump & Boom arm	79
	Forklift	3	70	C7.93	Site Fork Lift Trucks 32 Kw (C4.57 spectrum +9 dB)	86
	Wheeled Excavator	2	70	C4.12	Wheeled Excavator	77

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Table 4 Construction plant assumptions – Roade Bypass construction

Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
T. Bypass Enabling Works	40T tracked excavator	3	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	D6 Dozer	2	90	C2.12	Dozer, 142 kW - 20t	81
	20T vibrating roller	3	90	C5.22	Vibratory roller*, 92 kW - 12t	81
	35T dumpers	8	90	C4.01	Articulated dump truck*, 194 kW - 25t	81
	12T excavators	2	60	C2.05	Tracked Excavator, 72 kW - 16t	76
	9T dumpers	2	40	C4.04	Dumper*, 75 kW - 9t	76
	Disc Cutters	2	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	Concrete Pump	1	90	C3.26	Concrete Pump	75
	Concrete vibrating pokers	1	50	C4.33	Poker Vibrator	78
Ua. Bypass Road Construction - Part 1	35T excavator	3	90	C2.14	Tracked Excavator, 226 kW - 40t	79
	35T Dumpers	8	90	C4.01	Articulated dump truck*, 194 kW - 25t	81
	D6 Dozer	2	70	C2.12	Dozer, 142 kW - 20t	81
	20T vibrating rollers	4	70	C5.22	Vibratory roller*, 92 kW - 12t	81
Ub. Bypass Road Construction - Part 2	20T tracked excavators	3	60	C2.03	Tracked Excavator, 102 kW - 22t	78
	twin drum rollers	2	30	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
	9T dumpers	4	30	C4.04	Dumper*, 75 kW - 9t	76
	Disc Cutters	2	5	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
Uc. Bypass Road Construction - Part 3	Asphalt paver	1	60	C5.31	Asphalt paver (+tipper lorry), 94 kW - 18t	77
	10T rollers	2	50	C2.37	Roller (rolling fill)*, 145 kW - 18t	79
Uc. Bypass Road Construction - Part 3	Floor saw	1	5	C4.71	Circular bench saw (petrol-cutting concrete blocks)	85
	Hand held breaker	1	5	C5.4	Road breaker (hand-held pneumatic)	86
	<i>compressor for breaker</i>	1	5	C5.5	Compressor for hand-held pneumatic breaker, 1t	65
V. Bridge over Rail Line (Bypass)	Back hoe hydraulic breaker	1	5	C5.1	Backhoe mounted hydraulic breaker, 67 kW	88
	Piling Rig 900mm auger rig	1	90	C3.21	Crawler mounted rig, 150 kW, 35t	79
	Concrete Pump	1	90	C3.26	Concrete Pump	75
	Concrete Deliveries	1	90	C4.20	Concrete Mixer Truck	80

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Activity Scenario	Plant / Equipment	Qty	On-time (%)	BS 5228 Ref		L _{Aeq,T} @ 10 m (dB)
V. Bridge over Rail Line (Bypass)	Disc Cutters	2	4	C5.36	Hand-held circular saw (petrol), 3 kW - 300mm diameter / 9.2kg	87
	9T dumpers	2	20	C4.04	Dumper*, 75 kW - 9t	76
	12T excavators	1	40	C2.05	Tracked Excavator, 72 kW - 16t	76
	Crane 55T	1	10	C4.45	Mobile telescopic crane, 260kW 55t	82
	Concrete pokers	2	50	C4.33	Poker Vibrator	78