

M2 Junction 5 Improvements Environmental Statement Volume 2 - Appendix C Noise and Vibration June 2019

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Appendix C (Noise and Vibration)

Appendix C. Noise and Vibration

C.1 Construction Noise

Table C.1: Construction equipment list per activity

Activity	Plant	Total LAeq at 10m (dBA)	Percentage on-time	Correction	LAeq corrected	Total level for each activity
Site Clearance	Tracked excavator (30T)	75	50	-3.0	72.0	83.0
	Articulated dump truck	81	50	-3.0	78.0	
	Wheeled backhoe loader (JCB type)	68	50	-3.0	65.0	
	Road breaker	82	30	-5.2	76.8	
	Compressor for hand-held breaker	65	30	-5.2	59.8	
	Mini excavator with auger	74	30	-5.2	68.8	
	Tractor and trailer	80	30	-5.2	74.8	
Dumper (up to 5T)	78	50	-3.0	75.0		
Earthworks	Tracked excavator (25T)	77	40	-4.0	73.0	82.8
	Dozer (D8 type)	81	60	-2.2	78.8	
	Wheeled excavator (14T)	77	40	-4.0	73.0	
	Articulated dump truck (25 T)	81	60	-2.2	78.8	
Drainage	Tracked excavator (25T)	77	50	-3.0	74.0	80.1
	Site dumper (9T)	76	30	-5.2	70.8	
	Vibratory roller	74	40	-4.0	70.0	
	Concrete mixer trucks	80	20	-7.0	73.0	
	Vibrator pokers	69	20	-7.0	62.0	
	Wheeled backhoe loader (JCB type)	68	40	-4.0	64.0	
	Trench roller	67	40	-4.0	63.0	
Wacker plate	80	30	-5.2	74.8		
Road Formation and surfacing	Dozer	75	50	-3.0	72.0	83.5
	Road delivery lorries	82	40	-4.0	78.0	
	Tracked excavator (22T)	78	40	-4.0	74.0	
	Twin drum vibrating roller (2m wide)	80	50	-3.0	77.0	
	Articulated dump truck (25 T)	81	40	-4.0	77.0	
	Road paver (Blaw Knox type)	75	50	-3.0	72.0	
	Three point drum roller	67	30	-5.2	61.8	
Wheeled backhoe loader (JCB type)	68	30	-5.2	62.8		

Activity	Plant	Total LAeq at 10m (dBA)	Percentage on-time	Correction	LAeq corrected	Total level for each activity
Ducting	Tracked excavator (5T)	65	20	-7.0	58.0	71.2
	Site dumper (5T)	78	20	-7.0	71.0	
Signs and Lighting	Specific use road truck with Hi-ab	77	30	-5.2	71.8	80.3
	Access platform	67	20	-7.0	60.0	
	Specific use road truck with Hi-ab (signage)	77	60	-2.2	74.8	
	Tracked excavator (5T)	65	40	-4.0	61.0	
	Specific use road truck (road markings)	77	20	-7.0	70.0	
	Site dumper (5T)	78	20	-7.0	71.0	
	Specific use road truck with Hi-ab (road restraint)	77	40	-4.0	73.0	
	Safety barrier piling rig	76	20	-7.0	69.0	
	Safety barrier piling rig compressor	75	30	-5.2	69.8	
	Landscaping	Tractor and rotovalor	80	40	-4.0	
Tractor and seeder		80	30	-5.2	74.8	
Tracked excavator (22T)		78	30	-5.2	72.8	
Articulated dump truck		81	40	-4.0	77.0	
Bridge structures and retaining walls	Vibratory piling rig	91	50	-3.0	88.0	95.0
	Wheeled mobile crane	79	50	-3.0	76.0	
	Power pack	73	50	-3.0	70.0	
	Tracked mobile drilling rig	95	50	-3.0	92.0	
	Tracked excavator	80	50	-3.0	77.0	
	Concrete mixer truck (discharging) & concrete pump (pumping)	81	50	-3.0	78.0	
	Poker vibrator	90	50	-3.0	87.0	
	Diesel generator	56	50	-3.0	53.0	
	Tracked excavator	81	50	-3.0	78.0	
	Articulated dump truck	87	50	-3.0	84.0	

C.2 Operational phase

Predicted Daytime Road traffic noise levels

C.2.1 Table C.2 below shows the predicted daytime ($L_{A10,18h}$) road traffic noise levels at a representative selection of residential and non-residential sensitive receptors in the study area.

Table C.2: Predicted daytime road traffic noise levels at selected locations

Noise-sensitive receptor	Road traffic noise levels ($L_{A10,18h}$, dB)				Change (dB)	
	DM 2022	DS 2022	DM 2037	DS 2037	Short-term	Long-term
Sandina, Stockbury Valley, ME9 7QD	68.0	66.6	68.7	67.3	-1.4	-0.7
Vale Cottages, Stockbury Valley, ME9 7QD	56.8	52.4	57.4	53.3	-4.4	-3.5
Threeways, Pett Rd, Stockbury, Sittingbourne ME9 7QE	61.1	60.6	62.1	61.0	-0.5	-0.1
Whipstakes Farm, Stockbury Valley, Sittingbourne ME9 7QJ	65.5	65.8	66.4	66.2	0.3	0.7
The Studios, Oad Street, Sittingbourne, ME9 8JX	59.7	60.0	60.5	60.6	0.3	0.9
Shortlands, Maidstone Road Borden Sittingbourne, ME9 7Q	60.6	61.4	60.9	61.7	0.8	1.1
St Mary Magdalene Church, Stockbury, ME9 7RD	51.6	50.6	52.2	51.9	-1.0	0.3

C.2.2 Table C.2 above below shows the predicted night-time ($L_{night, outside}$) noise levels at a representative selection of residential and non-residential sensitive receptors in the study area.

Table C.3: Predicted night-time road traffic noise levels at selected locations

Noise-sensitive receptor	Road traffic noise levels ($L_{night, outside}$ dB)				Change (dB)	
	DM 2022	DS 2022	DM 2037	DS 2037	Short-term	Long-term
Sandina, Stockbury Valley, ME9 7QD	57.6	56.4	58.2	57.1	-1.2	-0.5
Vale Cottages, Stockbury Valley, ME9 7QD	48.1	45.2	48.6	46.0	-2.9	-2.1

Noise-sensitive receptor	Road traffic noise levels (L _{night, outside} dB)				Change (dB)	
	DM 2022	DS 2022	DM 2037	DS 2037	Short-term	Long-term
Threeways, Pett Rd, Stockbury, Sittingbourne ME9 7QE	53.1	52.8	53.9	53.1	-0.3	0.0
Whipstakes Farm, Stockbury Valley, Sittingbourne ME9 7QJ	56.8	57.0	57.5	57.3	0.2	0.5
The Studios, Oad Street, Sittingbourne, ME9 8JX	54.7	54.6	55.3	55.2	-0.1	0.5
Shortlands, Maidstone Road Borden Sittingbourne, ME9 7Q	53.0	53.4	53.3	53.8	0.4	0.8
St Mary Magdalene Church, Stockbury, ME9 7RD	48.2	47.4	48.8	48.6	-0.8	0.4

C.3 Noise nuisance

C.3.1 The table below shows the change in noise nuisance levels as a result of the Scheme.

Table C.4: Traffic noise nuisance reporting table

Change in nuisance level		Number of dwellings	
		Do Minimum	Do Something
Increase in nuisance level	< 10%	119	25
	10 < 20%	0	76
	20 < 30%	0	4
	30 < 40%	0	0
	> 40%	0	0
No change	0%	0	1
Decrease in nuisance level	< 10%	0	13
	10 < 20%	0	0
	20 < 30%	0	0
	30 < 40%	0	0
	> 40%	0	0

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