A1 Birtley to Coal House

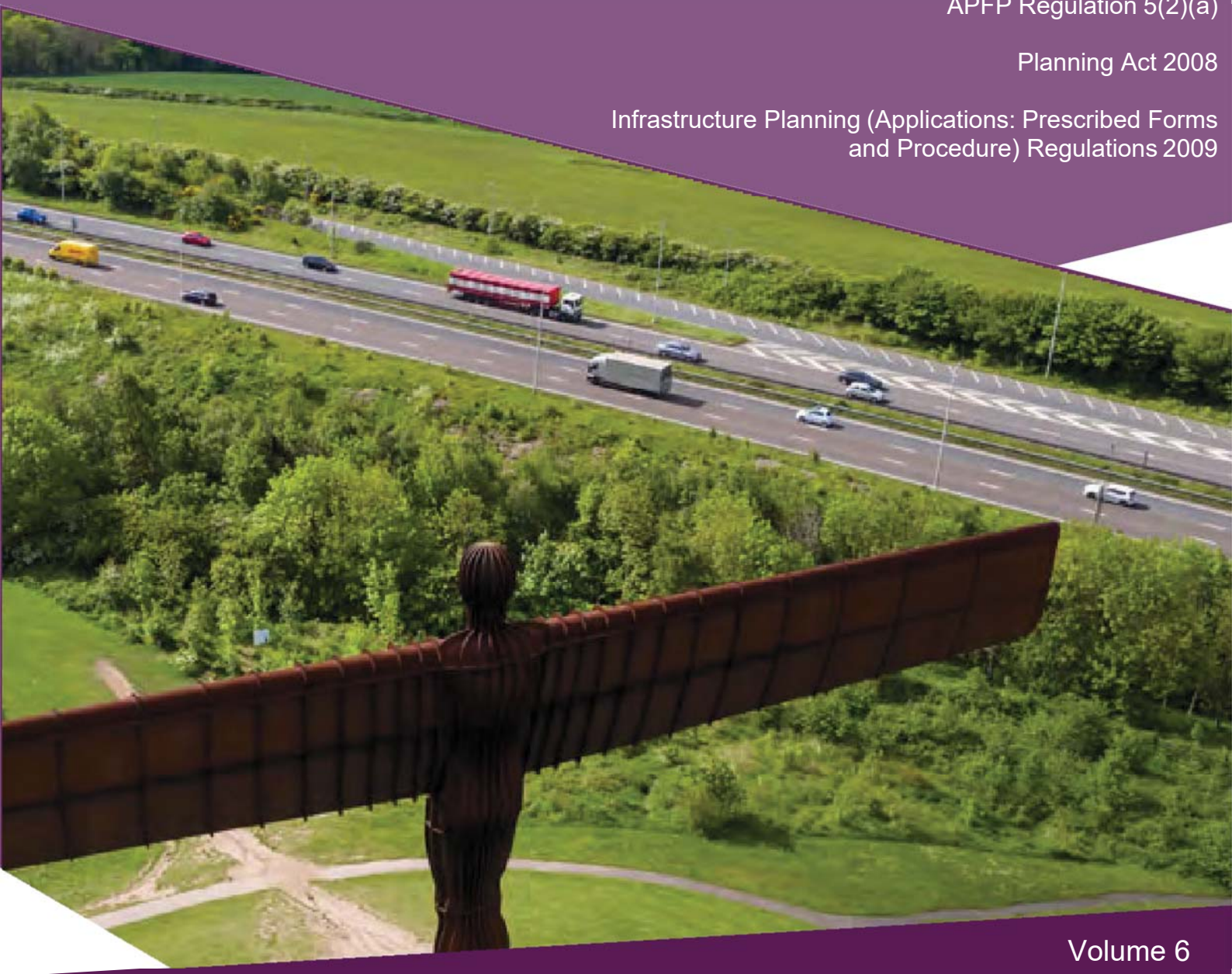
Scheme Number: TR010031

6.3 Environmental Statement – Appendix 11.5 Construction Criteria, Data and Prediction Results

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



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A1 Birtley to Coal House

Development Consent Order 20[xx]

Environmental Statement - Appendix

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CONSTRUCTION CRITERIA, PLANT AND DATA

1.1. CONSTRUCTION NOISE ASSESSMENT CRITERIA

1.1.1. Construction noise assessment criteria have been determined in accordance with the BS 228-1:2009+A1:2014 'ABC method' for each adopted assessment location, and as presented in **Table 5-1**.

Table 5-1 – Construction noise assessment criteria

Receptor	Adopted baseline survey location	Daytime		Night-time	
		Existing daytime $L_{Aeq,T}$	ABC category (assessment criteria)	Existing night-time $L_{Aeq,T}$	ABC category (assessment criteria)
1	1	57.4	A (65)	44.3	B (50)
2	1	57.4	A (65)	44.3	B (50)
3	2	55.6	A (65)	54.0	C (55)
4	4	63.5	B (70)	56.4	>C (56.4)
5	B	66.0	B (70)	60.1	>C (60.1)
6	A	73.9	C (75)	68.7	>C (68.7)
7	2	55.6	A (65)	54.0	C (55)
8	4	63.5	B (70)	56.4	>C (56.4)
9	B	66.0	B (70)	60.1	>C (60.1)
10	B	66.0	B (70)	60.1	>C (60.1)
11	B	66.0	B (70)	60.1	>C (60.1)
12	3	58.5	A (65)	52.2	C (55)

1.1.2. The enabling works teams, associated plant, sound power levels and 'on' time are presented below.

Table 5-2 – NGN Enabling works construction teams, associated plant, sound power levels (L_{WA}) and 'on' times

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
NGN works					
NGN1 – Construct new AGI	Tracked mobile crane (50t)	1	100%	C3.29	98
	Excavator 20t	2	100%	C2.21	99
	Dumper 10t	2	100%	C2.32	94
	Excavator 10t	1	100%	C2.25	97
	Vibratory roller	1	100%	C5.26	105
	Mini digger	1	100%	C5.34	98
	Fixed generator	1	100%	C4.85	94
	Portable generator	1	100%	C4.85	94
	Compressor (250cfm)	1	100%	C5.5	93
NGN2 – Construct new governor	Tracked mobile crane (50t)	1	100%	C3.29	98
	Excavator 20t	1	100%	C2.21	99
	Dumper 10t	1	100%	C2.32	94
	Excavator 10t	1	100%	C2.25	97
	Vibratory roller	1	100%	C5.26	105
	Mini digger	1	100%	C5.34	98
	Portable generator	1	100%	C4.85	94
	Compressor (250cfm)	1	100%	C5.5	93
NGN3 – Divert intermediate pressure main (micro tunnelling)	Dumper 10t	1	100%	C2.32	94
	Excavator 10t	1	100%	C2.25	97
	Mini digger	1	100%	C5.34	98
	Portable generator	1	100%	C4.85	94

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
	Compressor (250cfm)	1	100%	C5.5	93
	Slurry plant	1	100%	-	103
NGN4 – Divert low pressure main (auger boring)	Dumper 10t	1	100%	C2.32	94
	Augerbore	1	100%	C2.44	105
	Excavator 10t	1	100%	C2.25	97
	Mini digger	1	100%	C5.34	98
	Portable generator	1	100%	C4.85	94
	Compressor (250cfm)	1	100%	C5.5	93
NGN5 – Demolish old AGI	Excavator 20t	1	100%	C2.21	99
	Dumper 10t	2	100%	C2.32	94
	Excavator 10t	1	100%	C2.25	97
	Vibratory roller	1	100%	C5.26	105
	Mini digger	1	100%	C5.34	98
	Portable generator	1	100%	C4.85	94
	Compressor (250cfm)	1	100%	C5.5	93
	Hydraulic crusher	1	100%	C1.14	110

Table 5-3 – Construction teams, associated plant, sound power levels (L_{WA}) and 'on' times

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
Earthworks teams					
E1 - Piled embankment foundations	CFA piling rig (large)	1	90%	C3.21	107
	Tracked mobile crane (50t)	1	10%	C3.29	98
	Generator	1	90%	C4.85	94

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
and mat	Articulated delivery vehicle	1	10%	C4.8	84
	Excavator 20t	2	50%	C2.21	99
	8 Wheeled road wagon	6	25%	C4.8	84
E2 - Embankment construction	Komatsu 450 – 45t tracked excavator	1	90%	C2.14	107
	8 Wheeled road wagon	4	20%	C4.8	84
	Cat. D6LGP tracked dozer	2	90%	C2.12	109
	Grader	1	50%	C6.31	114
	CS 76 Self-propelled roller	1	50%	C2.37	107
	Komatsu 210 - 22t tracked excavator	1	45%	C2.21	99
E3 - Ancillary plant to above teams	Fuel bowser	1	10%	C6.36	89
	Land rover 4x4	2	20%	C2.28	104
	Water bowser	1	10%	C6.37	81
E4 - Merge/diverge earthworks	Komatsu 350 - 35t tracked excavator	1	90%	C2.15	104
	Volvo A25 - 25t articulated dump truck	3	30%	C4.8	84
	Cat D6LGP tracked dozer	1	90%	C2.12	109
	CS 76 self-propelled roller	1	50%	C2.37	107
	8 wheeled road wagon	4	50%	C4.8	84
E5 - Topsoil strip	Komatsu 350 - 35t tracked excavator	1	90%	C2.15	104
	Volvo A25 - 25t ADT	3	90%	C4.8	84
	Cat D6LGP tracked dozer	2	90%	C2.12	109
	8 Wheeled road wagon	2	50%	C4.8	84

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
Structures teams					
S1 - West House Farm Accommodation bridge	Self-propelled modular transporter	2	90%	-	Low noise
	Excavator and hydraulic breaker	1	90%	C9.11	121
	8 Wheeled road wagon	2	50%	C4.8	84
S2 - Bored piling (18m deep 750 dia.)	CFA piling rig (large)	1	90%	C3.21	107
	Tracked mobile crane (50t)	1	10%	C3.29	98
	Generator	1	90%	C4.85	94
	Articulated delivery vehicle	1	50%	C4.8	84
	Excavator 20t	1	50%	C2.21	99
	Concrete wagons	1	25%	C4.19	99
S3 - Excavation and Trimming bored piles	Excavator 20t	1	90%	C2.21	99
	Hydraulic crusher	1	90%	C9.14	118
	Stihl saw	1	50%	C3.34	96
	8 Wheeled road wagon	2	50%	C4.8	84
	Compressor (250cfm)	1	50%	C5.5	93
	Small breaking tool	2	50%	C1.6	111
S4 - Reinforced concrete works	Mobile crane 40t	1	90%	C3.29	98
	Articulated delivery vehicle	1	50%	C4.8	84
	Concrete wagons	1	25%	C4.19	99
	Concrete pump	1	25%	C3.25	106
	Compressor (250cfm)	1	50%	C5.5	93
	Air/diesel poker	4	25%	C4.34	97

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
	Generator	1	50%	C4.85	94
S5 - Reinforced structures backfill	Excavator 20t	1	90%	C2.21	99
	8 Wheeled road wagon	2	50%	C4.8	84
	Vibrating plate	2	75%	C2.41	108
	Pedestrian roller	2	75%	C5.28	105
S6 - Bridge beam assembly	Excavator 20t	1	90%	C2.21	99
	Articulated delivery vehicle	1	50%	C4.8	84
	Vibrating plate	1	50%	C2.41	108
	Pedestrian roller	1	50%	C5.28	105
S7 - Minor works	150t mobile crane	1	90%	C5.37	104
	Articulated delivery vehicle	2	50%	C4.8	84
	Mobile elevating work platform	1	90%	C4.58	91
	Compressor (250cfm)	1	75%	C5.5	93
	Air gun	2	75%	D7.80	107
Other teams					
P1 - Demolition	Excavator 40t	1	90%	C2.14	107
	Hydraulic crusher	1	90%	C1.14	110
	8 Wheeled road wagon	1	25%	C4.8	84
P2 - Drainage/utility diversion	Excavator 20t	1	90%	C2.21	99
	Dumper 2t	1	50%	C4.9	105
	Sump pump	1	100%	C4.88	96
	Generator	1	100%	C4.85	94
	Delivery wagon 40t	1	50%	C4.8	84

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
P3 - Site clearance	Excavator 20t	2	90%	C2.21	99
	Chainsaw	2	50%	D2.14	114
	Dump truck 40t	1	50%	C4.8	84
	8 Wheeled road wagon	1	50%	C4.8	84
P4 - Boundary fencing	Agricultural tractor/trailer with auger	1	90%	D9.50	99
	Pick-up truck	1	10%	C9.25	110
	Dumper 2t	1	50%	C4.9	105
P5 - Lay sub-base	8 Wheeled road wagon - stone delivery	3	90%	C4.8	84
	Cat D6LGP tracked dozer	1	90%	C2.12	109
	CS 76 Self-propelled roller	1	50%	C2.37	107
P6 - Install kerbs and gullies / safety fencing	JCB3c	1	90%	C2.8	96
	4 Wheeled road wagon	1	50%	C4.8	84
	Compressor (250cfm)	1	25%	C5.5	93
	Road breaker	1	25%	C5.3	110
P7 - Lay blacktop	Paver (Blaw Nox or equal) + tipper lorry	1	90%	C5.30	103
	8 Wheeled road wagon	3	30%	C4.8	84
	Vibratory roller	2	90%	C5.26	105
	Dead weight roller	1	90%	C5.19	108
	Stihl saw	1	90%	C3.34	96
	Road saw	1	90%	C3.34	96
	JCB3c	1	90%	C2.8	96
P8 -	Hiab lorry	1	90%	C9.25	110

Team reference	Equipment item	Number of plant	% On-time	BS5228-1 reference	L_{WA}
Install lamp columns	Mobile elevating work platform	1	90%	C4.58	91
	Pick-up truck	1	90%	C9.25	110
P9 - Road restrain system	Hiab lorry	1	90%	C9.25	110
	Bobcat and auger	1	90%	C3.17	104
	Pick up truck	1	90%	C9.25	110
	Concrete delivery	1	20%	C4.20	108
P10 - Line marking	Line marking vehicle	1	15%	C4.8	84
P11 - Bridge Works	Excavator 20T	2	90%	C2.21	99
	Mobile crane 40T	1	90%	C3.29	98
	Articulated delivery vehicle	1	50%	C4.8	84
	Concrete wagons	1	25%	C4.19	99
	Concrete cutting	1	25%	D6.53	112

Table 5-4 – Adopted daytime construction working scenarios

Construction working areas	Scenario reference	Works	Working teams
NGN	A	Construct new above ground AGI	NGN1
	B	Build new district governor	NGN2
	C	Divert high pressure mains	NGN3
	D	Divert low pressure mains	NGN4
	E	Demolish old AGI	NGN5
1	A	Site clearance	P3 and P4
	B	Site entrance/car parks	S7 and P3

Construction working areas	Scenario reference	Works	Working teams
	C	Drainage and infrastructure	P2
2	A	Bridge works	P11
3	A	Harden central reserve	P3, P5, P7 and P10
	B	Site clearance	P3 and P4
	C	Earthworks	E3 and E4
	D	Install pile and construct pile cap	S3
	E	Beams	S1
4 (AE option)	A	Site clearance	P3 and P4
	B	Earthworks	E3 and E4
	C	Drainage	E2 and E3
	D	Grouting mobilisation	S7 and P3
	E	Waterproofing/joints	S1
4 (AV option)	A	Site clearance	P3 and P4
	B	Excavation in front of piles	E4
	C	Piling platform	P5
	D	Bored piling	S2 and S3
	E	Pile cap	S4 and S5
5	A	Harden reservation	P3, P5, P7 and P10
	B	Widening site clearance	P3 and P4
	C	Widening earthworks	E3 and E4
	D	Road markings and finishes	P9 and P10
6	A	Completing final works to enable traffic switch	P9 and P10

Construction working areas	Scenario reference	Works	Working teams
	B	Site clearance	P3 and P4
	C	Earthworks	E3 and E4
7	A	Access to and construction of crane areas	E3
	B	Removal works	P3
8	A	Demobilisation	S7
	B	Reinstatement	P3

Table 5-5 – Adopted night-time construction working scenarios

Construction working areas	Scenario reference	Works	Working teams
NGN	C	Divert high pressure mains	NGN3
2	A	Bridge works	P11
4 (AE option)	A	Site clearance	P3 and P4
	B	Earthworks	E3 and E4
	E	Waterproofing/joints	S1
	F	Bridge works	P11
4 (AV option)	A	Site clearance	P3 and P4
	B	Excavation in front of piles	E4
	D	Bored piling	S2 and S3
	E	Pile cap	S4 and S5
	F	Bridge works	P11
7	B	Removal works	P3
	F	Bridge works	P11

1.2. PREDICTED CONSTRUCTION NOISE LEVELS

UNMITIGATED LEVELS

1.2.1. Bold text represents noise levels above the SOAEL.

Table 5-6 – Predicted unmitigated daytime construction noise levels, average and worst-case, free-field $L_{Aeq,T}$, dB

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
Average case													
NGN	A	52	-	44	-	-	-	-	-	-	-	-	-
	B	43	-	51	-	-	-	-	-	-	-	-	-
	C	45	-	42	-	-	-	-	-	-	-	-	-
	D	51	-	39	-	-	-	-	-	-	-	-	-
	E	46	-	58	-	-	-	-	-	-	-	-	-
1	A	59	61	**67**	60	65	-	-	-	-	-	-	-
	B	60	62	**68**	61	66	-	-	-	-	-	-	-
	C	49	51	57	50	55	-	-	-	-	-	-	-
2	A	-	48	54	-	-	-	-	-	-	-	-	-
3	A	63	-	54	-	-	58	-	-	-	-	-	-
	B	60	-	52	-	-	55	-	-	-	-	-	-
	C	57	-	49	-	-	52	-	-	-	-	-	-
	D	65	-	56	-	-	59	-	-	-	-	-	-
	E	**67**	-	58	-	-	61	-	-	-	-	-	-
4 (Allerdene embankment option)	A	55	56	61	-	-	-	54	-	-	-	-	-
	B	52	53	58	-	-	-	51	-	-	-	-	-
	C	55	56	61	-	-	-	55	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	D	56	57	61	-	-	-	55	-	-	-	-	-
	E	60	61	**66**	-	-	-	60	-	-	-	-	-
4 (Allerdene viaduct option)	A	55	56	61	-	-	-	54	-	-	-	-	-
	B	51	52	57	-	-	-	51	-	-	-	-	-
	C	50	51	56	-	-	-	50	-	-	-	-	-
	D	59	60	65	-	-	-	58	-	-	-	-	-
	E	52	53	58	-	-	-	52	-	-	-	-	-
5	A	-	-	-	-	63	-	45	56	53	49	49	46
	B	-	-	-	-	61	-	43	54	51	46	46	44
	C	-	-	-	-	58	-	40	51	48	43	43	41
	D	-	-	-	-	58	-	41	53	50	45	45	43
6	A	56	55	56	-	-	-	-	-	-	-	-	-
	B	58	56	58	-	-	-	-	-	-	-	-	-
	C	55	53	55	-	-	-	-	-	-	-	-	-
7	A	-	-	61	-	-	-	-	-	-	-	-	-
	B	-	-	64	-	-	-	-	-	-	-	-	-
8	A	55	56	62	55	61	-	-	-	-	-	-	-
	B	59	61	**67**	59	65	-	-	-	-	-	-	-
Worst-case													
NGN	A	55	-	45	-	-	-	-	-	-	-	-	-
	B	44	-	52	-	-	-	-	-	-	-	-	-
	C	45	-	43	-	-	-	-	-	-	-	-	-
	D	51	-	39	-	-	-	-	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	E	47	-	60	-	-	-	-	-	-	-	-	-
1	A	**68**	**75**	**72**	65	68	-	-	-	-	-	-	-
	B	**69**	**76**	**73**	66	69	-	-	-	-	-	-	-
	C	58	65	62	55	58	-	-	-	-	-	-	-
2	A	-	49	59	-	-	-	-	-	-	-	-	-
3	A	63	-	63	-	-	**76**	-	-	-	-	-	-
	B	63	-	**66**	-	-	**79**	-	-	-	-	-	-
	C	60	-	63	-	-	**76**	-	-	-	-	-	-
	D	**66**	-	57	-	-	61	-	-	-	-	-	-
	E	**68**	-	59	-	-	63	-	-	-	-	-	-
4 (AE option)	A	64	58	63	-	-	-	63	-	-	-	-	-
	B	61	56	60	-	-	-	60	-	-	-	-	-
	C	65	59	64	-	-	-	64	-	-	-	-	-
	D	65	59	64	-	-	-	64	-	-	-	-	-
	E	**70**	64	**69**	-	-	-	**69**	-	-	-	-	-
4 (AV option)	A	64	58	63	-	-	-	63	-	-	-	-	-
	B	61	55	60	-	-	-	60	-	-	-	-	-
	C	59	54	58	-	-	-	58	-	-	-	-	-
	D	**68**	63	**67**	-	-	-	**67**	-	-	-	-	-
	E	62	56	61	-	-	-	60	-	-	-	-	-
5	A	-	-	-	-	**83**	-	**70**	**74**	**80**	**86**	**86**	**78**
	B	-	-	-	-	**81**	-	**68**	**72**	**77**	**83**	**84**	**76**
	C	-	-	-	-	**78**	-	65	69	**74**	**80**	**81**	**73**

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	D	-	-	-	-	**78**	-	61	66	**73**	**79**	**77**	**73**
6	A	62	56	63	-	-	-	-	-	-	-	-	-
	B	63	57	64	-	-	-	-	-	-	-	-	-
	C	60	54	62	-	-	-	-	-	-	-	-	-
7	A	-	-	62	-	-	-	-	-	-	-	-	-
	B	-	-	**60**	-	-	-	-	-	-	-	-	-
8	A	58	**65**	**63**	55	58	-	-	-	-	-	-	-
	B	**62**	**69**	**67**	59	63	-	-	-	-	-	-	-

Table 5-7 – Predicted unmitigated night-time construction noise levels, average and worst-case, free-field $L_{Aeq,T}$, dB

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
Average case													
2	A	-	48	54	-	-	-	-	-	-	-	-	-
4 (Allerdene embankment option)	A	**55**	**56**	**61**	-	-	-	54	-	-	-	-	-
	B	**52**	**53**	**58**	-	-	-	51	-	-	-	-	-
	E	**60**	**61**	**66**	-	-	-	**60**	-	-	-	-	-
	F	**48**	49	54	-	-	-	48	-	-	-	-	-
4 (Allerdene viaduct option)	A	**55**	**56**	**61**	-	-	-	54	-	-	-	-	-
	B	**51**	**52**	**57**	-	-	-	51	-	-	-	-	-
	D	**59**	**60**	**65**	-	-	-	**58**	-	-	-	-	-
	E	**52**	**53**	**58**	-	-	-	52	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	F	**48**	49	54	-	-	-	48	-	-	-	-	-
Worst-case													
2	A	-	49	**59**	-	-	-	-	-	-	-	-	-
4 (AE option)	A	**64**	**58**	**63**	-	-	-	**63**	-	-	-	-	-
	B	**61**	**56**	**60**	-	-	-	**60**	-	-	-	-	-
	E	**70**	**64**	**69**	-	-	-	**69**	-	-	-	-	-
	F	**57**	**52**	**56**	-	-	-	**59**	-	-	-	-	-
4 (AV option)	A	**64**	**58**	**63**	-	-	-	**63**	-	-	-	-	-
	B	**61**	**55**	**60**	-	-	-	**60**	-	-	-	-	-
	D	**68**	**63**	**67**	-	-	-	**67**	-	-	-	-	-
	E	**62**	**56**	**61**	-	-	-	**60**	-	-	-	-	-
	F	**57**	**52**	**56**	-	-	-	**59**	-	-	-	-	-

MITIGATED LEVEL ASSESSMENT

Table 5-8 – Daytime construction noise - With mitigation - ABC limit compliance and NOEL, LOAEL AND SOAEL, dB

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
Key													
Green text		Level below ABC assessment criteria											
Black text		Level above ABC assessment criteria											
Green highlight		NOEL											
Amber highlight		LOAEL to SOAEL											
Red highlight		SOAEL											

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
Average case													
NGN	A	-18	-	-26	-	-	-	-	-	-	-	-	-
	B	-27	-	-19	-	-	-	-	-	-	-	-	-
	C	-25	-	-28	-	-	-	-	-	-	-	-	-
	D	-19	-	-31	-	-	-	-	-	-	-	-	-
	E	-24	-	-12	-	-	-	-	-	-	-	-	-
1	A	-11	-9	-3	-15	-10	-	-	-	-	-	-	-
	B	-10	-8	-2	-14	-9	-	-	-	-	-	-	-
	C	-21	-19	-13	-25	-20	-	-	-	-	-	-	-
2	A	-	-23	-16	-	-	-	-	-	-	-	-	-
3	A	-7	-	-16	-	-	-22	-	-	-	-	-	-
	B	-10	-	-18	-	-	-25	-	-	-	-	-	-
	C	-13	-	-21	-	-	-28	-	-	-	-	-	-
	D	-5	-	-14	-	-	-21	-	-	-	-	-	-
	E	-3	-	-12	-	-	-19	-	-	-	-	-	-
4 (AE option)	A	-15	-14	-10	-	-	-	-16	-	-	-	-	-
	B	-18	-17	-12	-	-	-	-19	-	-	-	-	-
	C	-15	-14	-9	-	-	-	-15	-	-	-	-	-
	D	-15	-14	-9	-	-	-	-15	-	-	-	-	-
	E	-10	-9	-4	-	-	-	-10	-	-	-	-	-
4 (AV option)	A	-15	-14	-10	-	-	-	-16	-	-	-	-	-
	B	-19	-18	-13	-	-	-	-19	-	-	-	-	-
	C	-20	-19	-14	-	-	-	-21	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	D	-11	-10	-5	-	-	-	-12	-	-	-	-	-
	E	-18	-17	-12	-	-	-	-18	-	-	-	-	-
5	A	-	-	-	-	-12	-	-25	-19	-22	-26	-26	-24
	B	-	-	-	-	-14	-	-27	-21	-24	-29	-29	-26
	C	-	-	-	-	-17	-	-30	-24	-27	-32	-32	-29
	D	-	-	-	-	-17	-	-29	-22	-25	-30	-30	-28
6	A	-14	-15	-14	-	-	-	-	-	-	-	-	-
	B	-12	-14	-12	-	-	-	-	-	-	-	-	-
	C	-15	-17	-15	-	-	-	-	-	-	-	-	-
7	A	-	-	-9	-	-	-	-	-	-	-	-	-
	B	-	-	-7	-	-	-	-	-	-	-	-	-
8	A	-15	-14	-8	-20	-14	-	-	-	-	-	-	-
	B	-11	-9	-3	-16	-10	-	-	-	-	-	-	-
Worst-case													
NGN	A	-15	-	-25	-	-	-	-	-	-	-	-	-
	B	-26	-	-18	-	-	-	-	-	-	-	-	-
	C	-25	-	-27	-	-	-	-	-	-	-	-	-
	D	-19	-	-31	-	-	-	-	-	-	-	-	-
	E	-23	-	-10	-	-	-	-	-	-	-	-	-
1	A	-2	5	2	-10	-7	-	-	-	-	-	-	-
	B	-1	6	3	-10	-6	-	-	-	-	-	-	-
	C	-12	-5	-8	-20	-17	-	-	-	-	-	-	-
2	A	-	-22	-11	-	-	-	-	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
3	A	-7	-	-7	-	-	-4	-	-	-	-	-	-
	B	-7	-	-4	-	-	-1	-	-	-	-	-	-
	C	-10	-	-7	-	-	-4	-	-	-	-	-	-
	D	-4	-	-13	-	-	-19	-	-	-	-	-	-
	E	-2	-	-11	-	-	-17	-	-	-	-	-	-
4 (AE option)	A	-6	-12	-7	-	-	-	-7	-	-	-	-	-
	B	-9	-15	-10	-	-	-	-10	-	-	-	-	-
	C	-6	-11	-6	-	-	-	-7	-	-	-	-	-
	D	-5	-11	-6	-	-	-	-6	-	-	-	-	-
	E	0	-6	-1	-	-	-	-2	-	-	-	-	-
4 (AV option)	A	-6	-12	-7	-	-	-	-7	-	-	-	-	-
	B	-9	-15	-10	-	-	-	-11	-	-	-	-	-
	C	-11	-16	-12	-	-	-	-12	-	-	-	-	-
	D	-2	-8	-3	-	-	-	-3	-	-	-	-	-
	E	-9	-14	-9	-	-	-	-10	-	-	-	-	-
5	A	-	-	-	-	8	-	0	-1	5	11	11	8
	B	-	-	-	-	6	-	-2	-3	2	8	9	6
	C	-	-	-	-	3	-	-5	-6	-1	5	6	3
	D	-	-	-	-	3	-	-9	-9	-2	4	2	3
6	A	-9	-14	-7	-	-	-	-	-	-	-	-	-
	B	-7	-13	-6	-	-	-	-	-	-	-	-	-
	C	-10	-16	-9	-	-	-	-	-	-	-	-	-
7	A	-	-	-8	-	-	-	-	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	B	-	-	-5	-	-	-	-	-	-	-	-	-
8	A	-7	0	-3	-15	-12	-	-	-	-	-	-	-
	B	-3	4	2	-11	-8	-	-	-	-	-	-	-

Table 5-9 - Night-time construction noise – With mitigation - ABC limit compliance and NOEL, LOAEL AND SOAEL, dB

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
Key													
Green text		Level below ABC assessment criteria											
Black text		Level above ABC assessment criteria											
Green highlight		NOEL											
Amber highlight		LOAEL to SOAEL											
Red highlight		SOAEL											
Average case													
2	A	-	-8	-6	-	-	-	-	-	-	-	-	-
4 (AE option)	A	5	1	1	-	-	-	-9	-	-	-	-	-
	B	2	-2	-2	-	-	-	-9	-	-	-	-	-
	E	10	6	6	-	-	-	0	-	-	-	-	-
	F	-2	-6	-6	-	-	-	-13	-	-	-	-	-
4 (AV option)	A	5	1	1	-	-	-	-6	-	-	-	-	-
	B	1	-3	-3	-	-	-	-9	-	-	-	-	-
	D	9	5	5	-	-	-	-2	-	-	-	-	-
	E	2	-2	-2	-	-	-	-8	-	-	-	-	-

Working area	Scenario	Assessment location											
		1	2	3	4	5	6	7	8	9	10	11	12
	F	-2	-6	-6	-	-	-	-13	-	-	-	-	-
Worst-case													
2	A	-	-7	-1	-	-	-	-	-	-	-	-	-
4 (AE option)	A	14	3	3	-	-	-	3	-	-	-	-	-
	B	11	1	0	-	-	-	0	-	-	-	-	-
	E	20	9	9	-	-	-	9	-	-	-	-	-
	F	7	-3	1	-	-	-	4	-	-	-	-	-
4 (AV option)	A	14	3	3	-	-	-	3	-	-	-	-	-
	B	11	0	0	-	-	-	-1	-	-	-	-	-
	D	18	8	7	-	-	-	7	-	-	-	-	-
	E	12	1	1	-	-	-	0	-	-	-	-	-
	F	7	-3	1	-	-	-	4	-	-	-	-	-

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