

APPENDIX F

Details of Construction Noise Assessment

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
 Job No.: 21270
 Date: 10-11-99

Plant Item	Foundation Stage PME	TM Ref (CNP)	Basic Noise Level, dB(A)		Source location & distance						Corrections				CNL ^[2] dB(A)
			SWL	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac		
1	Bored Piling (Oscillator)	165	115	9	843042.1	814862.2	1.5	205.6	10	-46.3	0.0	0.0	0.0	3	63.3
2	Generator, silenced	102	100	2	843042.1	814862.2	1.5	205.6	3	-46.3	0.0	0.0	0.0	3	41.8
3	Excavator	081	112	2	843042.1	814862.2	1.5	205.6	3	-46.3	0.0	0.0	0.0	3	53.8
4	Lorry	141	112	4	843042.1	814862.2	1.5	205.6	6	-46.3	0.0	0.0	0.0	3	56.8
5	Crawler Crane	048	112	12	843042.1	814862.2	1.5	205.6	11	-46.3	0.0	0.0	0.0	3	61.5
6	Reverse Circulation Driller	166	100	6	843042.1	814862.2	1.5	205.6	8	-46.3	0.0	0.0	0.0	3	46.5
7	Concrete Lorry Mixer	044	109	2	843042.1	814862.2	1.5	205.6	3	-46.3	0.0	0.0	0.0	3	50.8
8	Dump Truck	067	117	1	843042.1	814862.2	1.5	205.6	0	-46.3	0.0	0.0	0.0	3	55.7
9	Poker	170	113	1	843042.1	814862.2	1.5	205.6	0	-46.3	0.0	0.0	0.0	3	51.7
10	Compactor	050	105	1	843042.1	814862.2	1.5	205.6	0	-46.3	0.0	0.0	0.0	3	43.7
TOTAL													67		

Xr : 842837.0
 Yr : 814876.0
 Hr : 4.5

Definition of terms:

- SWL - the sound power level of a source, dB(A)
- No. - the number of items of plant operating simultaneously
- Xr, Yr, Hr - the coordinates of the NSR, m
- Xs, Ys, Hs - the coordinates of the source, m
- Lsr - the horizontal distance between the source and NSR, m
- Cno - correction for no. of plant items
- CLsr - the correction for slant distance between the source and the NSR, dB(A)
- Catm - the air absorption using CONCAWE methodology
- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)
- [1] - NSR with fixed glazing facing the depot
- [2] - attenuation of 10dB(A) for NSR totally screened by building design

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
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Plant Item	Foundation Stage	TM Ref (CNP)	Basic Noise Level, dB(A)		No.	Source location & distance				Corrections				CNL [2] dB(A)		
			SWL	SWL		Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri		Cfac	
1	Bored Piling (Oscillator)	165	115	115	9	843038.3	814856.9	1.5	208.8	10	-46.4	0.0	0.0	0.0	3	63.1
2	Generator, silenced	102	100	100	2	843038.3	814856.9	1.5	208.8	3	-46.4	0.0	0.0	0.0	3	41.6
3	Excavator	081	112	112	2	843038.3	814856.9	1.5	208.8	3	-46.4	0.0	0.0	0.0	3	53.6
4	Lorry	141	112	112	4	843038.3	814856.9	1.5	208.8	6	-46.4	0.0	0.0	0.0	3	56.6
5	Crawler Crane	048	112	112	12	843038.3	814856.9	1.5	208.8	11	-46.4	0.0	0.0	0.0	3	61.4
6	Reverse Circulation Driller	166	100	100	6	843038.3	814856.9	1.5	208.8	8	-46.4	0.0	0.0	0.0	3	46.4
7	Concrete Lorry Mixer	044	109	109	2	843038.3	814856.9	1.5	208.8	3	-46.4	0.0	0.0	0.0	3	50.6
8	Dump Truck	067	117	117	1	843038.3	814856.9	1.5	208.8	0	-46.4	0.0	0.0	0.0	3	55.6
9	Poker	170	113	113	1	843038.3	814856.9	1.5	208.8	0	-46.4	0.0	0.0	0.0	3	51.6
10	Compactor	050	105	105	1	843038.3	814856.9	1.5	208.8	0	-46.4	0.0	0.0	0.0	3	43.6
											TOTAL		67			

Xr : 842834.0
 Yr : 814900.0
 Hr: 4.5

Definition of terms:

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- Xs, Ys, Hs - the coordinates of the source, m
- Lsr - the horizontal distance between the source and NSR, m
- Cno - correction for no. of plant items
- CLsr - the correction for slant distance between the source and the NSR, dB(A)
- Catm - the air absorption using CONCAWE methodology
- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)
- [1] - NSR with fixed glazing facing the depot
- [2] - attenuation of 10dB(A) for NSR totally screened by building design

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
 Job No.: 21270
 Date: 10-11-99

Plant Item	Foundation Stage	TM Ref (CNP)	Basic Noise Level, dB(A)		Source location & distance						Corrections					CNL dB(A)
			SWL	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac			
1	Bored Piling (Oscillator)	165	115	9	843060.6	814880.1	1.5	266.8	10	-48.5	0.0	0.0	0.0	3	71.0	
2	Generator, silenced	102	100	2	843060.6	814880.1	1.5	266.8	3	-48.5	0.0	0.0	0.0	3	49.5	
3	Excavator	081	112	2	843060.6	814880.1	1.5	266.8	3	-48.5	0.0	0.0	0.0	3	61.5	
4	Lorry	141	112	4	843060.6	814880.1	1.5	266.8	6	-48.5	0.0	0.0	0.0	3	64.5	
5	Crawler Crane	048	112	12	843060.6	814880.1	1.5	266.8	11	-48.5	0.0	0.0	0.0	3	69.3	
6	Reverse Circulation Driller	166	100	6	843060.6	814880.1	1.5	266.8	8	-48.5	0.0	0.0	0.0	3	54.3	
7	Concrete Lorry Mixer	044	109	2	843060.6	814880.1	1.5	266.8	3	-48.5	0.0	0.0	0.0	3	58.5	
8	Dump Truck	067	117	1	843060.6	814880.1	1.5	266.8	0	-48.5	0.0	0.0	0.0	3	63.5	
9	Poker	170	113	1	843060.6	814880.1	1.5	266.8	0	-48.5	0.0	0.0	0.0	3	59.5	
10	Compactor	050	105	1	843060.6	814880.1	1.5	266.8	0	-48.5	0.0	0.0	0.0	3	51.5	
TOTAL													75			

Xr : 842957.0
 Yr : 815126.0
 Hr: 4.5

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- Xs, Ys, Hs - the coordinates of the source, m
- Lsr - the horizontal distance between the source and NSR, m

- Cno - correction for no. of plant items
- CLsr - the correction for slant distance between the source and the NSR, dB(A)
- Catm - the air absorption using CONCAWE methodology
- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
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Plant Item	Foundation Stage PME	TM Ref (CNP)	Basic Noise Level, dB(A)		Source location & distance						Corrections					CNL dB(A)
			No.	SWL	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac			
1	Bored Piling (Oscillator)	165	9	115	843059.8	814827.4	1.5	465.9	10	-53.4	-1.3	0.0	3	64.9		
2	Generator, silenced	102	2	100	843059.8	814827.4	1.5	465.9	3	-53.4	-1.3	0.0	3	43.3		
3	Excavator	081	2	112	843059.8	814827.4	1.5	465.9	3	-53.4	-1.3	0.0	3	55.3		
4	Lorry	141	4	112	843059.8	814827.4	1.5	465.9	6	-53.4	-1.3	0.0	3	58.4		
5	Crawler Crane	048	12	112	843059.8	814827.4	1.5	465.9	11	-53.4	-1.3	0.0	3	63.1		
6	Reverse Circulation Driller	166	6	100	843059.8	814827.4	1.5	465.9	8	-53.4	-1.3	0.0	3	48.1		
7	Concrete Lorry Mixer	044	2	109	843059.8	814827.4	1.5	465.9	3	-53.4	-1.3	0.0	3	52.3		
8	Dump Truck	067	1	117	843059.8	814827.4	1.5	465.9	0	-53.4	-1.3	0.0	3	57.3		
9	Poker	170	1	113	843059.8	814827.4	1.5	465.9	0	-53.4	-1.3	0.0	3	53.3		
10	Compactor	050	1	105	843059.8	814827.4	1.5	465.9	0	-53.4	-1.3	0.0	3	45.3		
											TOTAL				69	

Xr : 842847.0
 Yr : 814413.0
 Hr: 4.5

Definition of terms:

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- Xs, Ys, Hs - the coordinates of the source, m
- Lsr - the horizontal distance between the source and NSR, m
- Cno - correction for no. of plant items
- CLsr - the correction for slant distance between the source and the NSR, dB(A)
- Catm - the air absorption using CONCAWE methodology
- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
 Job No.: 21270
 Date: 10-11-99

Plant Item	Foundation Stage PME	TM Ref (CNP)	Basic Noise Level, dB(A)		Source location & distance						Corrections					CNL dB(A)
			No.	SWL	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac			
1	Bored Piling (Oscillator)	165	9	115	843036.8	814844.6	1.5	213.7	10	-46.6	0.0	-7.1	3	65.8		
2	Generator, silenced	102	2	100	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	44.3		
3	Excavator	081	2	112	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	56.3		
4	Lorry	141	4	112	843036.8	814844.6	1.5	213.7	6	-46.6	0.0	-7.1	3	59.3		
5	Crawler Crane	048	12	112	843036.8	814844.6	1.5	213.7	11	-46.6	0.0	-7.1	3	64.1		
6	Reverse Circulation Driller	166	6	100	843036.8	814844.6	1.5	213.7	8	-46.6	0.0	-7.1	3	49.1		
7	Concrete Lorry Mixer	044	2	109	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	53.3		
8	Dump Truck	067	1	117	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	-7.1	3	58.3		
9	Poker	170	1	113	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	-7.1	3	54.3		
10	Compactor	050	1	105	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	-7.1	3	46.3		
													TOTAL	70		

Xr : 842827.5
 Yr : 814804.4
 Hr: 16.5

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- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)

Calculation of Construction Noise Levels

Job Title.: First Bus Permanent Depot
 Job No.: 21270
 Date: 10-11-99

Plant Item	Superstructure Stage	TM Ref (CNP)	Basic Noise Level, dB(A)		Source location & distance					Corrections					CNL dB(A)
			SWL	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac		
Group 1	Compressor < 10m ³ /min	001	100	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	44.3	
	Concrete pump	047	109	1	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	-7.1	3	50.3	
	Generator, silenced	102	100	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	44.3	
	Compactor	050	105	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	-7.1	3	49.3	
	Excavator	081	112	3	843036.8	814844.6	1.5	213.7	5	-46.6	0.0	-7.1	3	58.1	
	Lorry	141	112	3	843036.8	814844.6	1.5	213.7	5	-46.6	0.0	-7.1	3	58.1	
Concrete Lorry Mixer	044	109	1	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	-7.1	3	50.3		
TOTAL for Group 1: 62															
Group 2	Tower Crane	049	95	1	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	0.0	3	43.4	
	Hoist	122	95	1	843036.8	814844.6	1.5	213.7	0	-46.6	0.0	0.0	3	43.4	
TOTAL for Group 2: 46															
Group 3	Bar Bender	021	90	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	0.0	3	41.4	
	Saw	201	108	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	0.0	3	59.4	
	Planer	171	117	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	0.0	3	68.4	
TOTAL for Group 3: 69															
Group 4	Poker	170	113	2	843036.8	814844.6	1.5	213.7	3	-46.6	0.0	0.0	3	64.4	
TOTAL for Group 4: 64															

Resultant Noise level due to plants in :

Group 1+ Group 2+ Group 3 = 70

Group 1+ Group 2+ Group 4 = 66

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- Catm - the air absorption using CONCAWE methodology
- Cfac - the facade correction, dB(A)
- Csri - the sound reduction provided by the building screening, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)