

APPENDIX G

Details of Depot Operation Noise Assessment
(Day-time)

Calculation of Depot Noise Levels (Daytime Operation)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99
 NSR: SQ1, Chai Wan TC Staff Quarter

NSRs	Height (m)	Predicted CNL (dB(A))
G/F	1.5	39.9
1/F	4.5	39.9
2/F	7.5	39.9
3/F	10.5	39.9
4/F	13.5	39.9
5/F	16.5	39.9
6/F	19.5	39.9
7/F	22.5	39.9
8/F	25.5	39.9
9/F	28.5	39.9
10/F	31.5	39.9
11/F	34.5	39.9
12/F	37.5	39.9
13/F	40.5	39.9
14/F	43.5	39.9
15/F	46.5	39.8
16/F	49.5	39.8
17/F	52.5	39.8
18/F	55.5	39.8
19/F	58.5	39.8
20/F	61.5	39.7
21/F	64.5	39.7
22/F	67.5	39.7
23/F	70.5	39.7
24/F	73.5	39.6
25/F	76.5	39.6

1/F	↓
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<End of NSR>

Calculation of Depot Noise Levels (Daytime Operaiton)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99

NSR	Source location & distance			Corrections			CNL ^[2] dB(A)							
	Xs	Ys	Hs	Lsr	Cno	CLsr		Catm	Csri	Cfac				
	Xr : 842837 Yr : 814876 Hr : 4.5													
Code	Description	Basic Noise Level, dB(A)		Source location & distance			Corrections			CNL ^[2] dB(A)				
		SWL	SPL(int) S (sqm)	No.	Xs	Ys	Hs	Lsr	Cno		CLsr	Catm	Csri	Cfac
S1	Bus/car wash (G/F)	88.4	0	2	843065	814809	1.5	238.1	3	-47.5	0.0	-10.0	3	18.9
S2	Test lane (G/F)	87.9	0	2	843057	814837	1.5	223.1	3	-47.0	0.0	-10.0	3	18.9
S4	Battery Charging (G/F)	0	74.1	1	843087	814892	1.5	250.4	0	-48.0	0.0	-20.0	3	11.9
S5	Workshop (G/F)	0	82.6	1	843098	814879	1.5	261.0	0	-48.3	0.0	-20.0	3	20.1
S6	Maintenance Area (G/F)	0	77.8	10	843074	814876	1.5	236.7	10	-47.5	0.0	-20.0	3	26.1
S7	Blacksmith Workshop (G/F)	0	73.6	1	843120	814844	1.5	285.2	0	-49.1	0.0	-20.0	3	10.3
S8	Tyre Changing Lane (G/F)	97.6	0	1	843057	814837	1.5	223.1	0	-47.0	0.0	-10.0	3	25.6
S10	Bus Refuelling (G/F)	82	0	1	843030	814842	1.5	196.0	0	-45.8	0.0	-10.0	3	11.2
S3	Engine Axle Workshop (1/F)	0	83.6	1	843060	814837	9.7	226.8	0	-47.1	0.0	-20.0	3	22.3
S5	Workshop (1/F)	0	82.6	1	843081	814826	9.7	248.7	0	-47.9	0.0	-20.0	3	20.5
S6	Maintenance Area (1/F)	0	77.8	1	843045	814830	9.7	213.2	0	-46.6	0.0	0.0	3	37.0
S9	Bus Parking (2/F)	87.8	0	2	843046	814849	18.7	210.8	3	-46.5	0.0	0.0	3	29.3
S9	Bus Parking (4/F)	87.8	0	2	843046	814849	26.9	211.5	3	-46.5	0.0	0.0	3	29.3
S9	Bus Parking (6/F)	87.8	0	2	843046	814849	35.1	212.6	3	-46.5	0.0	0.0	3	29.3
S9	Bus Parking (R/F)	87.8	0	2	843046	814849	43.3	213.9	3	-46.6	0.0	0.0	3	29.2
										TOTAL			39.9	

Definition of terms:

- SWL - the sound power level of a source, dB(A)
- SPL(int) - the internal sound pressure level within a building, dB(A)
- S (sqm) - the surface area of the wall of a building which faces the NSR, m²
- 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 envelope, 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 Depot Noise Levels (Daytime Operation)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99
 NSR: SQ2, Chai Wan TC Staff Quarter

NSRs	Height (m)	Predicted CNL (dB(A))
G/F	1.5	39.4
1/F	4.5	39.4
2/F	7.5	39.5
3/F	10.5	39.5
4/F	13.5	39.5
5/F	16.5	39.5
6/F	19.5	39.5
7/F	22.5	39.5
8/F	25.5	39.5
9/F	28.5	39.4
10/F	31.5	39.4
11/F	34.5	39.4
12/F	37.5	39.4
13/F	40.5	39.4
14/F	43.5	39.4
15/F	46.5	39.4
16/F	49.5	39.4
17/F	52.5	39.4
18/F	55.5	39.3
19/F	58.5	39.3
20/F	61.5	39.3
21/F	64.5	39.3
22/F	67.5	39.2
23/F	70.5	39.2
24/F	73.5	39.2
25/F	76.5	39.2
<End of NSR>		

1/F	↓
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Calculation of Depot Noise Levels (Daytime Operaiton)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99

NSR	Source location & distance			Basic Noise Level, dB(A)			Corrections						CNL ^[2] dB(A)			
	Xs	Ys	Hs	Lsr	No.	SWL	SPL(int)	S (sqm)	Cno	CLsr	Catm	Csri		Cfac		
	SQ2, Chai Wan TC Staff Quarter ^[1]															
	Xr: 842834															
	Yr: 814900															
	Hr: 4.5															
S1	Bus/car wash (G/F)	88.4	0	0	2	843065	814809	1.5	248.3	3	-47.9	0.0	-10.0	3	18.5	
S2	Test lane (G/F)	87.9	0	0	2	843057	814837	1.5	231.0	3	-47.3	0.0	-10.0	3	18.6	
S4	Battery Charging (G/F)	0	74.1	76	1	843087	814892	1.5	252.7	0	-48.1	0.0	-20.0	3	11.9	
S5	Workshop (G/F)	0	82.6	76	1	843098	814879	1.5	264.5	0	-48.4	0.0	-20.0	3	20.0	
S6	Maintenance Area (G/F)	0	77.8	76	10	843074	814876	1.5	240.6	10	-47.6	0.0	-20.0	3	26.0	
S7	Blacksmith Workshop (G/F)	0	73.6	76	1	843120	814844	1.5	291.5	0	-49.3	0.0	-20.0	3	10.1	
S8	Tyre Changing Lane (G/F)	97.6	0	0	1	843057	814837	1.5	231.0	0	-47.3	0.0	-20.0	3	15.3	
S10	Bus Refuelling (G/F)	82	0	0	1	843030	814842	1.5	204.1	0	-46.2	0.0	-10.0	3	10.8	
S3	Engine Axle Workshop (1/F)	0	83.6	76	1	843060	814837	9.7	234.6	0	-47.4	0.0	-20.0	3	22.0	
S5	Workshop (1/F)	0	82.6	76	1	843081	814826	9.7	257.1	0	-48.2	0.0	-20.0	3	20.2	
S6	Maintenance Area (1/F)	0	77.8	76	1	843045	814830	9.7	222.1	0	-46.9	0.0	0.0	3	36.7	
S9	Bus Parking (2/F)	87.8	0	0	2	843046	814849	18.7	217.8	3	-46.8	0.0	0.0	3	29.0	
S9	Bus Parking (4/F)	87.8	0	0	2	843046	814849	26.9	218.5	3	-46.8	0.0	0.0	3	29.0	
S9	Bus Parking (6/F)	87.8	0	0	2	843046	814849	35.1	219.5	3	-46.8	0.0	0.0	3	29.0	
S9	Bus Parking (R/F)	87.8	0	0	2	843046	814849	43.3	220.8	3	-46.9	0.0	0.0	3	28.9	
															TOTAL	39.4

Definition of terms:

- SWL - the sound power level of a source, dB(A)
- SPL(int) - the internal sound pressure level within a building, dB(A)
- S (sqm) - the surface area of the wall of a building which faces the NSR, m²
- 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 envelope, 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 Depot Noise Levels (Daytime Operation)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99
 NSR: HFC1, Heng Fa Chuen

NSRs	Height (m)	Predicted CNL (dB(A))		Barrier effect*
G/F	1.5	52.9	1/F	-15.0
1/F	4.5	52.9		-15.0
2/F	7.5	52.9		-15.0
3/F	10.5	52.9		-15.0
4/F	13.5	52.9		-15.0
5/F	16.5	52.9		-15.0
6/F	19.5	52.9		-15.0
7/F	22.5	52.9		-10.0
8/F	25.5	52.9		-10.0
9/F	28.5	52.9		-10.0
10/F	31.5	52.9		-10.0
11/F	34.5	52.8		-10.0
12/F	37.5	52.8		-10.0
13/F	40.5	52.8		-5.0
14/F	43.5	52.8		-5.0
15/F	46.5	52.8		-5.0
16/F	49.5	52.8		-5.0
17/F	52.5	52.8		-5.0
18/F	55.5	52.8		-5.0
19/F	58.5	52.8		-5.0
20/F	61.5	52.7		-5.0
<End of NSR>				

* - Only for S9 at R/F

Calculation of Depot Noise Levels (Daytime Operaiton)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99

NSR	HFC1, Heng Fa Chuen		Xr : 842957		Yr : 815126		Hr : 4.5								
	Description		Basic Noise Level, dB(A)		Source location & distance		Corrections		CNL						
Code	Description	SWL	SPL(int)	S (sqm)	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac	CNL
S1	Bus/car wash (G/F)	88.4	0	0	2	843065	814809	1.5	334.9	3	-50.5	-0.9	-5.0	3	30.0
S2	Test lane (G/F)	87.9	0	0	2	843057	814837	1.5	305.5	3	-49.7	-0.9	-5.0	3	30.4
S4	Battery Charging (G/F)	0	74.1	76	1	843087	814892	1.5	267.5	0	-48.5	0.0	-20.0	3	21.4
S5	Workshop (G/F)	0	82.6	76	1	843098	814879	1.5	284.3	0	-49.1	0.0	-20.0	3	29.3
S6	Maintenance Area (G/F)	0	77.8	76	10	843074	814876	1.5	275.9	10	-48.8	0.0	-3.0	3	51.8
S7	Blacksmith Workshop (G/F)	0	73.6	76	1	843120	814844	1.5	325.9	0	-50.3	-0.9	-20.0	3	18.2
S8	Tyre Changing Lane (G/F)	97.6	0	0	1	843057	814837	1.5	305.5	0	-49.7	-0.9	-5.0	3	37.0
S10	Bus Refuelling (G/F)	82	0	0	1	843030	814842	1.5	293.3	0	-49.3	0.0	0.0	3	27.7
S3	Engine Axle Workshop (1/F)	0	83.6	76	1	843060	814837	9.7	306.5	0	-49.7	-0.9	-20.0	3	28.8
S5	Workshop (1/F)	0	82.6	76	1	843081	814826	9.7	324.3	0	-50.2	-0.9	-20.0	3	27.3
S6	Maintenance Area (1/F)	0	77.8	76	1	843045	814830	9.7	308.9	0	-49.8	-0.9	0.0	3	42.9
S9	Bus Parking (2/F)	87.8	0	0	2	843046	814849	18.7	291.0	3	-49.3	0.0	0.0	3	36.5
S9	Bus Parking (4/F)	87.8	0	0	2	843046	814849	26.9	291.6	3	-49.3	0.0	0.0	3	36.5
S9	Bus Parking (6/F)	87.8	0	0	2	843046	814849	35.1	292.3	3	-49.3	0.0	0.0	3	36.5
S9	Bus Parking (R/F) ^[1]	87.8	0	0	2	843046	814849	43.3	293.3	3	-49.3	0.0	-15.0	3	21.5
														TOTAL	52.9


Definition of terms:

- SWL - the sound power level of a source, dB(A)
- SPL(int) - the internal sound pressure level within a building, dB(A)
- S (sqm) - the surface area of the wall of a building which faces the NSR, m²
- 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 envelope, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)
- [1] - attenuation of 15dB(A) at low level, 10dB(A) at mid-level & 5dB(A) at high level included due to rooftop parapet

Calculation of Depot Noise Levels (Daytime Operation)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99
 NSR: TWE1, Tsui Wan Estate

NSRs	Height (m)	Predicted CNL (dB(A))
G/F	1.5	41.8
1/F	4.3	41.8
2/F	7.1	41.8
3/F	9.9	41.8
4/F	12.7	41.8
5/F	15.5	41.8
6/F	18.3	41.8
7/F	21.1	41.8
8/F	23.9	41.8
9/F	26.7	41.8
10/F	29.5	41.8
11/F	32.3	41.8
12/F	35.1	41.8
13/F	37.9	41.8
14/F	40.7	41.8
15/F	43.5	41.8
16/F	46.3	41.8
17/F	49.1	41.8
18/F	51.9	41.8
19/F	54.7	41.8
20/F	57.5	41.8
21/F	60.3	41.7
22/F	63.1	41.7
23/F	65.9	41.7
24/F	68.7	41.7
25/F	71.5	41.7
26/F	74.3	41.7
27/F	77.1	41.7
28/F	79.9	41.7
29/F	82.7	41.7
30/F	85.5	41.7

1/F 

<End of NSR>

Calculation of Depot Noise Levels (Daytime Operaiton)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99

NSR		TWE1, Tsui Wan Estate										Xr: 842847		
												Yr: 814413		
												Hr: 4.3		
Code	Description	Basic Noise Level, dB(A)		Source location & distance					Corrections					CNL dB(A)
		SWL	SPL(int) S (sqm)	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac	
S1	Bus/car wash (G/F)	88.4	0	0	843065	814809	1.5	452.5	3	-53.1	-1.3	-10.0	3	22.0
S2	Test lane (G/F)	87.9	0	0	843057	814837	1.5	473.3	3	-53.5	-1.3	-10.0	3	21.1
S4	Battery Charging (G/F)	0	74.1	76	843087	814892	1.5	536.0	0	-54.6	-1.5	-20.0	3	13.8
S5	Workshop (G/F)	0	82.6	76	843098	814879	1.5	529.6	0	-54.5	-1.5	-20.0	3	22.4
S6	Maintenance Area (G/F)	0	77.8	76	843074	814876	1.5	515.7	10	-54.2	-1.4	-20.0	3	27.9
S7	Blacksmith Workshop (G/F)	0	73.6	76	843120	814844	1.5	510.7	0	-54.2	-1.4	-20.0	3	13.8
S8	Tyre Changing Lane (G/F)	97.6	0	0	843057	814837	1.5	473.3	0	-53.5	-1.3	-10.0	3	27.8
S10	Bus Refuelling (G/F)	82	0	0	843030	814842	1.5	466.3	0	-53.4	-1.3	-10.0	3	12.3
S3	Engine Axle Workshop (1/F)	0	83.6	76	843060	814837	9.7	475.3	0	-53.5	-1.3	-20.0	3	24.5
S5	Workshop (1/F)	0	82.6	76	843081	814826	9.7	474.9	0	-53.5	-1.3	-20.0	3	23.5
S6	Maintenance Area (1/F)	0	77.8	76	843045	814830	9.7	461.7	0	-53.3	-1.3	0.0	3	39.0
S9	Bus Parking (2/F)	87.8	0	0	843046	814849	18.7	479.5	3	-53.6	-1.3	0.0	3	30.9
S9	Bus Parking (4/F)	87.8	0	0	843046	814849	26.9	479.8	3	-53.6	-1.3	0.0	3	30.8
S9	Bus Parking (6/F)	87.8	0	0	843046	814849	35.1	480.3	3	-53.6	-1.3	0.0	3	30.8
S9	Bus Parking (R/F)	87.8	0	0	843046	814849	43.3	480.9	3	-53.6	-1.3	0.0	3	30.8
											TOTAL		41.8	

Definition of terms:

- SWL - the sound power level of a source, dB(A)
- SPL(int) - the internal sound pressure level within a building, dB(A)
- S (sqm) - the surface area of the wall of a building which faces the NSR, m²
- 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 envelope, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)

Calculation of Depot Noise Levels (Daytime Operation)

Job Title.: New World First Bus
Job No.: 21270
Date: 20-09-99
NSR: TC1, Chai Wan TC Classroom

NSRs	Height (m)	Predicted CNL (dB(A))
G/F	1.5	40.1
1/F	4.5	40.1
2/F	7.5	40.1
3/F	10.5	40.1
4/F	13.5	40.1
5/F	16.5	40.1
6/F	19.5	40.1
7/F	22.5	40.1
8/F	25.5	40.1

1/F	↓
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<End of NSR>

Calculation of Depot Noise Levels (Daytime Operaiton)

Job Title.: New World First Bus
 Job No.: 21270
 Date: 20-09-99

NSR	TC1, Chai Wan TC Classroom			Xr : 842838			Yr : 814840			Hr : 4.5					
	Code	Description	Basic Noise Level, dB(A)			Source location & distance			Corrections			CNL ^[2]			
		SWL	SPL(int)	S (sqm)	No.	Xs	Ys	Hs	Lsr	Cno	CLsr	Catm	Csri	Cfac	CNL dB(A)
S1	Bus/car wash (G/F)	88.4	0	0	2	843065	814809	1.5	229.5	3	-47.2	0.0	-10.0	3	19.2
S2	Test lane (G/F)	87.9	0	0	2	843057	814837	1.5	218.6	3	-46.8	0.0	-10.0	3	19.1
S4	Battery Charging (G/F)	0	74.1	76	1	843087	814892	1.5	254.3	0	-48.1	0.0	-20.0	3	11.8
S5	Workshop (G/F)	0	82.6	76	1	843098	814879	1.5	262.9	0	-48.4	0.0	-20.0	3	20.0
S6	Maintenance Area (G/F)	0	77.8	76	10	843074	814876	1.5	238.4	10	-47.5	0.0	-20.0	3	26.1
S7	Blacksmith Workshop (G/F)	0	73.6	76	1	843120	814844	1.5	282.4	0	-49.0	0.0	-20.0	3	10.4
S8	Tyre Changing Lane (G/F)	97.6	0	0	1	843057	814837	1.5	218.6	0	-46.8	0.0	-10.0	3	25.8
S10	Bus Refuelling (G/F)	82	0	0	1	843030	814842	1.5	191.9	0	-45.7	0.0	-10.0	3	11.3
S3	Engine Axle Workshop (1/F)	0	83.6	76	1	843060	814837	9.7	222.5	0	-46.9	0.0	-20.0	3	22.5
S5	Workshop (1/F)	0	82.6	76	1	843081	814826	9.7	243.1	0	-47.7	0.0	-20.0	3	20.7
S6	Maintenance Area (1/F)	0	77.8	76	1	843045	814830	9.7	207.3	0	-46.3	0.0	0.0	3	37.3
S9	Bus Parking (2/F)	87.8	0	0	2	843046	814849	18.7	208.3	3	-46.4	0.0	0.0	3	29.4
S9	Bus Parking (4/F)	87.8	0	0	2	843046	814849	26.9	209.0	3	-46.4	0.0	0.0	3	29.4
S9	Bus Parking (6/F)	87.8	0	0	2	843046	814849	35.1	210.0	3	-46.4	0.0	0.0	3	29.4
S9	Bus Parking (R/F)	87.8	0	0	2	843046	814849	43.3	211.4	3	-46.5	0.0	0.0	3	29.3
TOTAL														40.1	

Definition of terms:

- SWL - the sound power level of a source, dB(A)
- SPL(int) - the internal sound pressure level within a building, dB(A)
- S (sqm) - the surface area of the wall of a building which faces the NSR, m²
- 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 envelope, dB(A)
- CNL - the corrected noise level, dB(A)(30 minutes)
- [1] - NSRs are provided with air-conditioning
- [2] - attenuation of 10dB(A) included due to closing window