Project: Tung Chung New Town Extension
Project no.: 219844-70
Tile: Operational Groundborne Noise Assessment

Assessment Point: TCW-1-01
Floor: 1/F
Floor Level (mPD): 11.5

	Frequency, Hz														
	20	**25**	**32**	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**
Up Track															
VIL, L_{max}, VdB ref 1 x 10^{-6} in/s [1]	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Speed correction, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOC, dB	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Up Track Vibration Level, dB	65.9	62.3	62.5	64.7	64.4	67.1	61.1	54.5	52.9	53.5	48.2	33.9	30.2	27.3	26.3
Down Track															
VIL, L_{max}, VdB ref 1 x 10^{-6} in/s [1]	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Speed correction, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOC, dB	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Down Track Vibration Level, dB	65.9	62.3	62.5	64.7	64.4	67.1	61.1	54.5	52.9	53.5	48.2	33.9	30.2	27.3	26.3
Total Vibration Level															
Total Vibration Level Outside Building, VdB ref 1 x 10^{-6} in/s	68.9	65.3	65.5	67.7	67.4	70.2	64.1	57.5	55.9	56.6	51.2	36.9	33.2	30.3	29.3
BCF	-7.0	-7.5	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0	-14.5	-14.5	-14.5	-14.5	-14.5	-14.5
BYR - Up, dB	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
BVR - Resonance, dB	6.0	6.0	6.0	6.0	5.8	5.6	5.4	5.2	5.0	4.0	3.0	2.0	1.3	0.7	0.0
CTN, dB	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SAF, dB	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Predicted Noise Level per train for two direction, dB	77.9	73.8	73.5	74.7	73.2	74.8	67.5	59.7	56.9	56.1	49.7	34.4	30.0	26.5	24.8
A-weighting factor	-50.5	-44.7	-39.4	-34.6	-30.2	-26.2	-22.5	-19.1	-16.1	-13.4	-10.9	-8.6	-6.6	-4.2	-3.2
Predicted Noise Level, $L_{max\ (double\ passby)}$, dB(A)	27.4	29.1	34.1	40.1	43.0	48.6	45.0	40.6	40.8	42.7	38.8	25.8	23.4	22.3	21.6
Predicted Noise Level, $L_{eq\ (double\ passby)}$, dB(A) [2]	26.9	28.6	33.6	39.6	42.5	48.1	44.5	40.1	40.3	42.2	38.3	25.3	22.9	21.8	21.1
Passby duration, s [3]	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Predicted Noise Level, $L_{eq,30min}$, dB(A) [4][5]	18.4	20.0	25.0	31.0	33.9	39.5	35.9	31.6	31.8	33.6	29.8	16.7	14.3	13.2	12.5
$L_{eq,30mins}$, dB(A)	43.7														
Criteria	**45.0**														
Exceedance	**N**														

Notes:
[1] Vibration level based on at grade measurement for underground TCL trains in Tung Chung town center under normal operation.
[2] According to Appendix 9.3 of approved EIA 200/2011 Shatin to Central Link - Tai Wai to Hung Hom Section, Lmax has incorporated a +0.5 dB(A) correction to passby Leq.
[3] Duration based on site measurement.
[4] Leq,30mins = Leq(double passbys) + 10log(Passby duration in sec) + 3dB(A) + 10log(no. of events in 30mins per direction) - 32.6dB(A) (3dB(A) correction is added to Leq,30mins for leading and trailing effect for conservative approaches.)
[5] Leq,30min is based on train frequency of 9 trains per 30mins in each direction

Project: Tung Chung New Town Extension
Project no.: 219844-70
Tile: Operational Groundborne Noise Assessment

Assessment Point: TCW-2-01
Floor: 1/F
Floor Level (mPD): 16

	Frequency, Hz														
	20	**25**	**32**	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**
Up Track															
VIL, L_{max}, VdB ref 1 x 10^{-6} in/s [1]	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Speed correction, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOC, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Up Track Vibration Level, dB	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Down Track															
VIL, L_{max}, VdB ref 1 x 10^{-6} in/s [1]	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Speed correction, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOC, dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Down Track Vibration Level, dB	55.9	52.3	52.5	54.7	54.4	57.1	51.1	44.5	42.9	43.5	38.2	23.9	20.2	17.3	16.3
Total Vibration Level															
Total Vibration Level Outside Building, VdB ref 1 x 10^{6} in/s	58.9	55.3	55.5	57.7	57.4	60.2	54.1	47.5	45.9	46.6	41.2	26.9	23.2	20.3	19.3
BCF	-7.0	-7.5	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0	-14.5	-14.5	-14.5	-14.5	-14.5	-14.5
BYR - Up, dB	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
BVR - Resonance, dB	6.0	6.0	6.0	6.0	5.8	5.6	5.4	5.2	5.0	4.0	3.0	2.0	1.3	0.7	0.0
CTN, dB	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
SAF, dB	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Predicted Noise Level per train for two direction, dB	67.9	63.8	63.5	64.7	63.2	64.8	57.5	49.7	46.9	46.1	39.7	24.4	20.0	16.5	14.8
A-weighting factor	-50.5	-44.7	-39.4	-34.6	-30.2	-26.2	-22.5	-19.1	-16.1	-13.4	-10.9	-8.6	-6.6	-4.2	-3.2
Predicted Noise Level, $L_{max\ (double\ passby)}$, dB(A)	17.4	19.1	24.1	30.1	33.0	38.6	35.0	30.6	30.8	32.7	28.8	15.8	13.4	12.3	11.6
Predicted Noise Level, $L_{eq\ (double\ passby)}$, dB(A) [2]	16.9	18.6	23.6	29.6	32.5	38.1	34.5	30.1	30.3	32.2	28.3	15.3	12.9	11.8	11.1
Passby duration, s [3]	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Predicted Noise Level, $L_{eq,30min}$, dB(A) [4][5]	8.3	10.0	15.0	21.0	23.9	29.5	25.9	21.5	21.7	23.6	19.7	6.7	4.3	3.2	2.5
$L_{eq,30mins}$, dB(A)	33.6														
Criteria	**45.0**														
Exceedance	**N**														

Notes:
[1] Vibration level based on at grade measurement for underground TCL trains in Tung Chung town center under normal operatio
[2] According to Appendix 9.3 of approved EIA 200/2011 Shatin to Central Link - Tai Wai to Hung Hom Section, Lmax has incorporated a +0.5 dB(A) correction to passby Leq.
[3] Duration based on site measurement.
[4] Leq,30mins = Leq(double passbys) + 10log(Passby duration in sec) + 3dB(A) + 10log(no. of events in 30mins per direction) - 32.6dB(A) (3dB(A) correction is added to Leq,30mins for leading and trailing effect for conservative approaches.)
[5] Leq,30min is based on train frequency of 9 trains per 30mins in each direction