Privileged and Confidential

EIA for Residential cum Passive Recreational Development within REC Zone and R(C)
Zone at Various Lots in DD 104, Yuen Long, N.T.

Appendix 4-7F

Operational Noise Due to a Petrol Filling Station at Fairview Park (Night-time)

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m	Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level	Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
										Height of NSR				**Height of Barrier**											
1/F	N-ind5	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	35	35	-39	3	53	4.8	5.4	13	22	4.0	5.4	5.6	13	22	35	0.04937	-8	**45**	45	Yes	4.0m tall barrier at site boundary
	Total						**Cumulative Total @:**		**53**											**Cumulative Total @:**		**45**	45		
						Compliance with Noise Criteria or not:		Exceedance												**Compliance with Noise Criteria or not:**		**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

\# Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of NSR		Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of Barrier		Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
										Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m			Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level										
1/F	N-ind6	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	94	94	-47	3	45	4.8	5.4	0	0	0.0	0.0	5.6	10	6	94	-78.31249	0	45	45	Yes	No noise mitigation is required.
Total							**Cumulative Total @:**		**45**										**Cumulative Total @:**		**45**	45		
							Compliance with Noise Criteria or not:		Yes										**Compliance with Noise Criteria or not:**		**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of NSR — Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m	Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of Barrier — Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level	Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
1/F	N-ind7	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	37	37	-39	3	53	4.8	5.4	10	27	4.5	5.4	5.6	10	27	37	0.05991	-8	**45**	45	Yes	4.5m tall barrier at site boundary
	Total							**Cumulative Total @:**	**53**												**Cumulative Total @:**	**45**	45		
						Compliance with Noise Criteria or not: Exceedance														**Compliance with Noise Criteria or not:**	**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

\# Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of NSR		Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of Barrier		Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
										Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m			Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level										
1/F	N-ind8	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	44	44	-41	3	51	4.8	5.4	6	38	4.5	5.4	5.6	6	38	44	0.01021	-6	**45**	45	Yes	4.5m tall barrier at site boundary
Total							Cumulative Total @:		**51**											Cumulative Total @:		**45**	45		
							Compliance with Noise Criteria or not: Exceedance													Compliance with Noise Criteria or not:		**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

\# Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m	Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level	Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
1/F	N-ind9	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	105	105	-48	3	44	4.8	5.4	78	27	4.0	5.4	5.6	78	27	105	0.16949	-11	**33**	45	Yes	No noise mitigation measure is required for this NSR as unmitigated noise level would comply with the relevant noise criteria. However, since 4m tall noise barrier has been proposed for other NSRs (e.g. in front of N-Ind5), this NSR will also be benefited from the proposed noise barrier and the noise barrier effect has been taken into account in this noise calculation.
Total						**Cumulative Total @:**			**44**											**Cumulative Total @:**		**33**	45		
						Compliance with Noise Criteria or not:			Yes											**Compliance with Noise Criteria or not:**		**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

\# Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m	Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level	Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
1/F	N-ind2	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	124	124	-50	3	42	4.8	5.4	105	19	4.0	5.4	5.6	105	19	124	0.29403	-13	**29**	45	Yes	No noise mitigation measure is required for this NSR as unmitigated noise level would comply with the relevant noise criteria. However, since 4m tall noise barrier has been proposed for other NSRs (e.g. in front of N-Ind5), this NSR will also be benefited from the proposed noise barrier and the noise barrier effect has been taken into account in this noise calculation.
	Total						**Cumulative Total @: 42**													**Cumulative Total @: 29**			45		
							Compliance with Noise Criteria or not: Yes													**Compliance with Noise Criteria or not: Yes**					

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.

Appendix 4-7F - Estimated Noise Level Due to Petrol Filling Station

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Height of Receiver Above Ground mPD Level (m)	Receiver Ground mPD Level, m	Dist. From Receiver to Barrier (m)	Dist. From Barrier to Source (m)	Height of At-receiver Barrier above Ground mPD Level, m	At-receiver Barrier Ground mPD Level	Source mPD Level (1m above ground level)	a	b	c	Path Differ-ence	At-receiver Barrier Correc-tion dB(A)	Correct-ed Noise Level dB(A)	Noise Criteria	Comply with Noise Criteria or not	Remark
										Height of NSR				**Height of Barrier**											
1/F	N-ind2A	Sp	Movement of heavy vehicle within Petrol Filling Station (one entering and one leaving the station)	89	95	95	-48	3	44	4.8	5.4	76	19	4.0	5.4	5.6	76	19	95	0.26918	-13	**31**	45	Yes	No noise mitigation measure is required for this NSR as unmitigated noise level would comply with the relevant noise criteria. However, since 4m tall noise barrier has been proposed for other NSRs (e.g. in front of N-Ind5), this NSR will also be benefited from the proposed noise barrier and the noise barrier effect has been taken into account in this noise calculation.
Total						Cumulative Total @:			**44**											Cumulative Total @:		**31**	45		
						Compliance with Noise Criteria or not: Yes														Compliance with Noise Criteria or not:		**Yes**			

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

\# Sound Power Level is based on site measurement during the operation of the concerned noise source.

* Barrier attenuation is calculated based on Path Difference Method. Maekawa equation is applied in the calculation of barrier effect.

Corrected Noise Level = Sound Power Level of the industrial plant + Dist. Corr. + Façade Corr. + Barrier Corr.