

Appendix 4.5

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**Detail Calculation of  
Cumulative  
Construction Noise  
Assessment**

**Project: North-east New (Territories (NENT) Landfill Extension Environmental Impact Assessment**  
**Title: Calculation Sound Power Level - Restoration of Existing Landfill**

<b>Aftercare Period</b>					
<b>Description</b>	<b>RME</b>	<b>Unit</b>	<b>TM Identification</b>	<b>SWL/unit</b>	<b>Sub-total SWL</b>
<b>Installation of Final Capping</b>	Excavator	4	CNP 081	112	118
	Compactor	4	CNP 050	105	111
	Generator, silenced	6	CNP 102	100	108
	Wheel loader	2	CNP 081	112	115
	Sweeper	2	CNP 188	107	110
	Roller	2	CNP 186	108	111
	Crane truck	2	CNP 048	112	115
	Dump truck	2	CNP 067	117	120
	Lorry	10	CNP 141	112	122
	<b>Planting &amp; Landscaping</b>	Excavator	4	CNP 081	112
Compactor		4	CNP 050	105	111
Generator, silenced		6	CNP 102	100	108
Crane truck		2	CNP 048	112	115
<b>Total SWL for Aftercare Period</b>					<b>127</b>

**Project: North-east New (Territories (NENT) Landfill Extension Environmental Impact Assessment**  
**Title: Calculation Cumulative Construction Noise Level, Leq(30min)**

Distance between notional source positions and NSRs, m

Description	NSR									
	SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8	SR9	SR10
SWL <sup>[1]</sup>	127	127	127	127	127	127	127	127	127	127
Notional distance, m	707	1326	1624	2182	1927	623	995	641	975	239
Distance correction, dB(A) <sup>[2]</sup>	-65	-70	-72	-75	-74	-64	-68	-64	-68	-56
Screening by natural topography <sup>[3]</sup>	-10	-5	-10	-10	-10	0	0	0	-10	0
Total Corrected Noise Level <sup>[4]</sup>	55	55	48	45	46	66	62	66	52	74
SPL from the Project <sup>[5]</sup>	64	57	58	63	57	53	57	53	67	63
Cumulative Noise Level, Leq (30min)	65	59	58	63	57	66	63	66	67	75

[1] SWL is based on worksheet of calculation of SWL - Restoration of Existing Landfill.

[2] Distance correction =  $-20 \log r - 8$  based on hemi-spherical radiation, where  $r$  = distance.

[3] 10dB(A) reduction for total screening from natural topography, 5dB(A) reduction for partial screening from the hill slope.

[4] Total Sound Pressure Level (SPL) = Total SWL + Distance Correction + Screening by natural topography + 3 dB facade correction.

[5] Only the construction of Phase 1, Phase 2 & leachate treatment plant will overlap with restoration of existing landfill.