

APPENDIX A

Noise

APPENDIX A1

Background Noise Measurement Data

Background Noise Monitoring for Mai Po Nature Reserve

Location		MP01				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:07	10:37	49.4	73.3	43.2	49.3	44.8
Observation						

Location		MP02				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:28	10:58	68.6	71.7	64.5	69.2	67.9
Observation		There is an operating power generator at around 10m beside.				

Location		MP03				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:58	11:28	57.7	76.4	55.2	57.9	56.1
Observation						

Location		MP04				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
13:52	14:22	58.0	80.9	37.5	59.3	39.7
Observation						

Location		MP05				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
11:45	12:15	49.6	79.7	30.6	45.7	33.6
Observation						

Location		MP06				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
13:40	14:10	47.0	70.7	36.7	47.3	39.9
Observation						

Location		MP07				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
13:54	14:24	41.9	61.4	35.3	43.8	38.5
Observation						

Location		MP08				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:20	10:50	48.7	73.8	43.0	49.4	45.1
Observation						

Location		MP09				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:50	11:20	50.9	72.1	41.4	51.4	43.0
Observation						

Location		MP10				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
11:04	11:34	49.7	74.7	43.7	50.5	44.7
Observation						

Location		MP11				
Date		8/27/2019		Weather Sunny		
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
11:28	11:58	41.1	65.9	37.1	43.1	38.2
Observation						

Location		MP12				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
11:41	12:11	48.6	72.1	33.4	47.1	36.2
Observation						

Location		MP13				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
12:50	13:20	44.5	73.1	34.5	46.3	36.9
Observation						

Location		MP14				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
13:15	13:45	49.3	58.6	37.0	54.8	41.6
Observation						

Location		MP15				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
10:14	10:44	45.6	70.0	38.4	47.3	40.8
Observation						

Location		MP16				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
14:49	15:19	47.0	77.1	41.8	47.0	43.3
Observation						

Location		MP20				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
17:09	17:39	56.2	84.3	44.5	58.0	47.3
Observation						

Location		MP21				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
17:09	17:39	55.6	84.5	44.4	57.2	47.0
Observation						

Location		MP22				
Date		8/27/2019		Weather		Sunny
Time		Leq30 (dB(A))	Lmax	Lmin	L10 (dB(A))	L90 (dB(A))
15:54	16:24	51.4	76.0	39.1	49.9	41.3
Observation						

APPENDIX A2

Photographs of Representative NSRs

NSR 1 – Village House, Tam Kou Chau Road



● Noise Assessment Point



NSR 2 – Occupied Container, Tam Kon Chau Road



● Noise Assessment Point

NSR 3 – Village House, Boundary Road



● Noise Assessment Point

NSR 4 – Village House, Off Tam Kon Chau Road



Noise Assessment Point at back of building (not shown in this photograph as not accessible)

NSR 5 – Village House, Near AFCD Warden Lodge



● Noise Assessment Point

NSR 6 – House 43, Lychee Road West, Fairview Park



Noise Assessment Point at back of building (not shown in this photograph as not accessible)

NSR 7 – House 1, Lychee Road South, Fairview Park

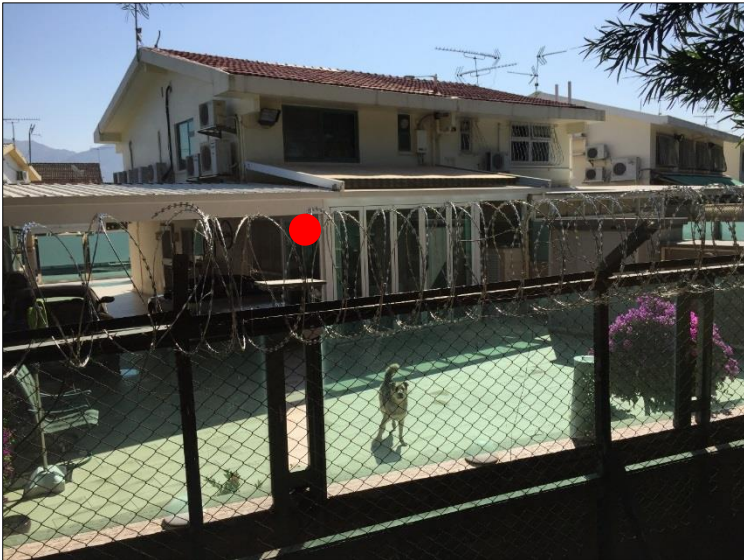


Noise Assessment Point at back of building (not shown in this photograph as not accessible)

NSR 8 – House 1, Bauhinia Road West, Fairview Park



Noise Assessment Point at back of building (shown in next photograph)



● Noise Assessment Point

NSR 9 – House 89, Bauhinia Road West, Fairview Park



● Noise Assessment Point

NSR 10 – Former Peter Scott Field Studies Centre



● Noise Assessment Point

APPENDIX A3

Construction Plant Inventory

PME				QPME		
PME	ID	Description	Unmitigated SWL	ID	Description	Mitigated SWL
Air Compressor, air flow>10m3/min<=30	CNP 002	Air Compressor, air flow>10m3/min<=30	102			
Air Compressor (air flow>30m ³ /min)	CNP 003	Air Compressor (air flow>30m ³ /min)	104			
Breaker (handheld, mass>10 kg and <20kg)	CNP 024	Breaker, hand-held, mass>10kg and < 20kg	108	EPD-06076	HILTI, TE 1500-AVR	102
Breaker (handheld, mass≥20 kg and ≤35kg)	CNP 025	Breaker, hand-held, mass>=20kg and <=35kg	111	EPD-05857	HILTI, TE 3000-AVR	108
Compactor	CNP 050	Compactor, vibratory	105			
Concrete Truck	CNP 044	Concrete lorry mixer	109			
Crane Lorry	EPD*	Lorry, with crane, 5.5t<gross vehicle weight<=38t	105			
Diesel Generator	CNP 101	Generator, standard	108	EPD-06113	DENYO, DCA-220LSIE	93
Dump Truck	EPD*	Dump Truck, 5.5t<gross vehicle weight<=38t	105			
Electric Drill	CNP 064	Drill, percussive	103			
Electric Saw	CNP 201	Saw, circular, wood	108			
Excavator	CNP 081	Excavator	112	EPD-05273	KATO, HD820-6	99
Mobile Crane	CNP 048	Crane, mobile/berge mounted (diesel)	112	EPD-05972	KOBELCO, CKS900	101
Pickup Truck	EPD*	Light goods vehicle	101			
Concrete Crusher	EPD*	Concrete crusher, excavator mounted	103			
Rebar Bending Machine	CNP 021	Bar bender and cutter (electric)	90			
Vibrating Hammer	EPD*	Piling, vibrating hammer	115			
Vibrating Poker	CNP 170	Poker, vibratory, hand-held	113			
Vibratory Roller	CNP 186	Roller, vibratory	108			
Winch	CNP 263	Winch (electric)	102			

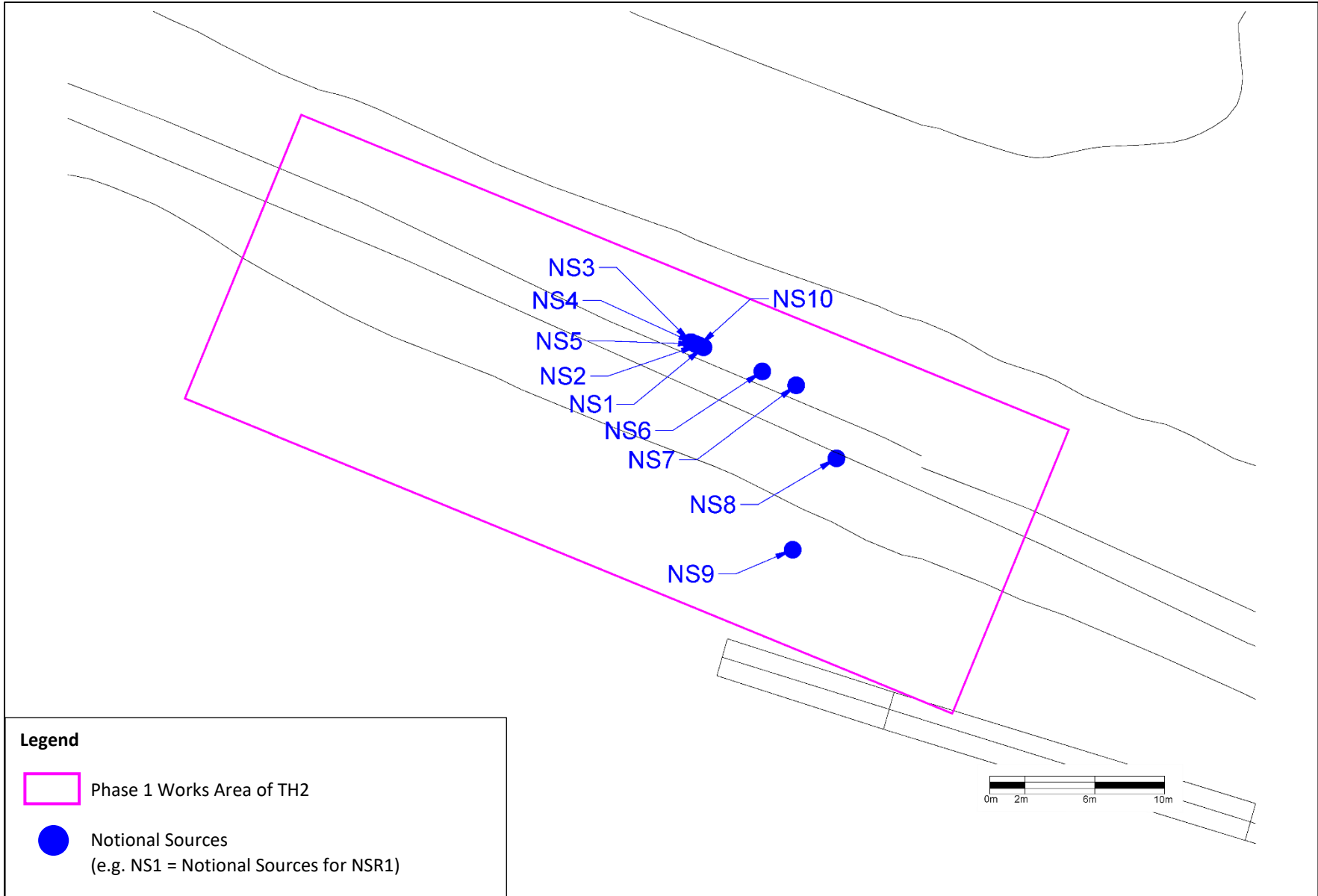
* Reference made from EPD's webpage https://www.epd.gov.hk/epd/sites/default/files/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

Work Activity ID	Construction Work Activities	Powered Mechanical Equipment	Reference ID	Utilization	Correction for Utilization	SWL per unit, dB(A)	Quantity	SWL, dB(A)	SWL of the Work Activity, dB(A)			
New TH 2 (including Boardwalk Access)												
A1	Foundation Works	Excavator	CNP 081	100%	0.0	112	1	112	116			
		Crane Lorry	EPD*	50%	-3.0	105	1	102				
		Pickup Truck	EPD*	50%	-3.0	101	1	98				
		Vibrating Poker	CNP 170	60%	-2.2	113	1	111				
		Compactor	CNP 050	100%	0.0	105	1	105				
		Electric Drill	CNP 064	30%	-5.2	103	1	98				
		Rebar Bending Machine	CNP 021	30%	-5.2	90	1	85				
		Concrete Truck	CNP 044	50%	-3.0	109	1	106				
A2	Superstructure Works	Excavator	CNP 081	100%	0.0	112	1	112	117			
		Crane Lorry	EPD*	50%	-3.0	105	1	102				
		Pickup Truck	EPD*	50%	-3.0	101	1	98				
		Vibrating Poker	CNP 170	100%	0.0	113	1	113				
		Compactor	CNP 050	50%	-3.0	105	1	102				
		Electric Drill	CNP 064	30%	-5.2	103	1	98				
		Winch	CNP 263	100%	0.0	102	1	102				
		Rebar Bending Machine	CNP 021	50%	-3.0	90	1	87				
A3	Roof, Cladding and Interior Works upto Hand	Concrete Truck	CNP 044	50%	-3.0	109	1	106	106			
		Crane Lorry	EPD*	50%	-3.0	105	1	102				
		Pickup Truck	EPD*	50%	-3.0	101	1	98				
		Electric Drill	CNP 064	30%	-5.2	103	1	98				
New TH 3 (including Boardwalk Access)	Foundation Works	Excavator	CNP 081	100%	0.0	112	1	112	116			
		Crane Lorry	EPD*	50%	-3.0	105	1	102				
		Pickup Truck	EPD*	50%	-3.0	101	1	98				
		Vibrating Poker	CNP 170	60%	-2.2	113	1	111				
		Compactor	CNP 050	100%	0.0	105	1	105				
		Electric Drill	CNP 064	30%	-5.2	103	1	98				
		Rebar Bending Machine	CNP 021	30%	-5.2	90	1	85				
		Concrete Truck	CNP 044	50%	-3.0	109	1	106				
		B2	Superstructure Works	Excavator	CNP 081	100%	0.0	112		1	112	117
				Crane Lorry	EPD*	50%	-3.0	105		1	102	
Pickup Truck	EPD*			50%	-3.0	101	1	98				
Vibrating Poker	CNP 170			100%	0.0	113	1	113				
Compactor	CNP 050			50%	-3.0	105	1	102				
Electric Drill	CNP 064			30%	-5.2	103	1	98				
Winch	CNP 263			100%	0.0	102	1	102				
Rebar Bending Machine	CNP 021			50%	-3.0	90	1	87				
B3	Roof, Cladding and Interior Works upto Hand	Concrete Truck	CNP 044	50%	-3.0	109	1	106	106			
		Crane Lorry	EPD*	50%	-3.0	105	1	102				
		Pickup Truck	EPD*	50%	-3.0	101	1	98				
		Electric Drill	CNP 064	30%	-5.2	103	1	98				
Main Boardwalk (including EAs)												
C1	Construction Works	Pickup Truck	EPD*	100%	0.0	101	1	101	101			

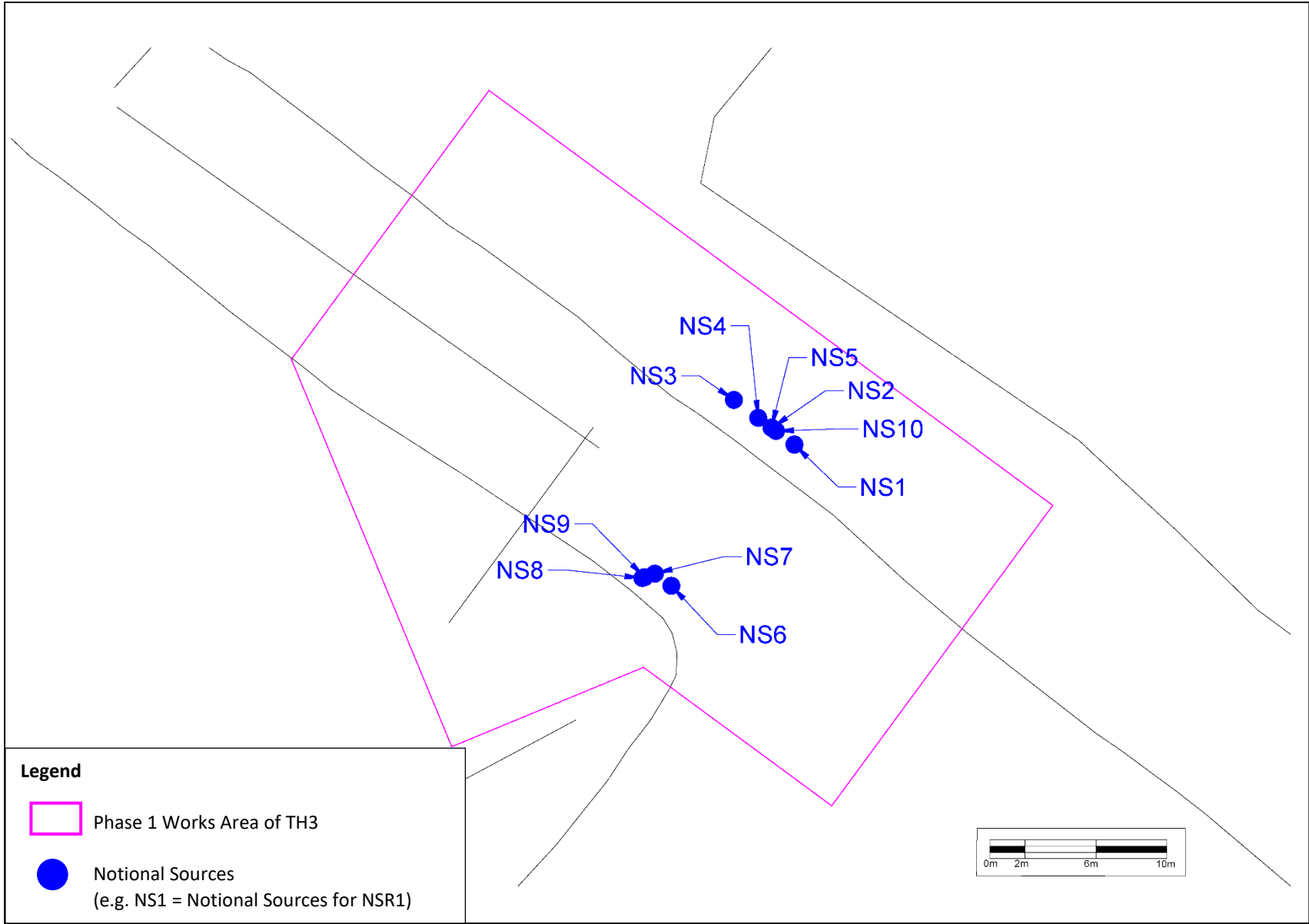
APPENDIX A4

Construction Noise Impact Assessment

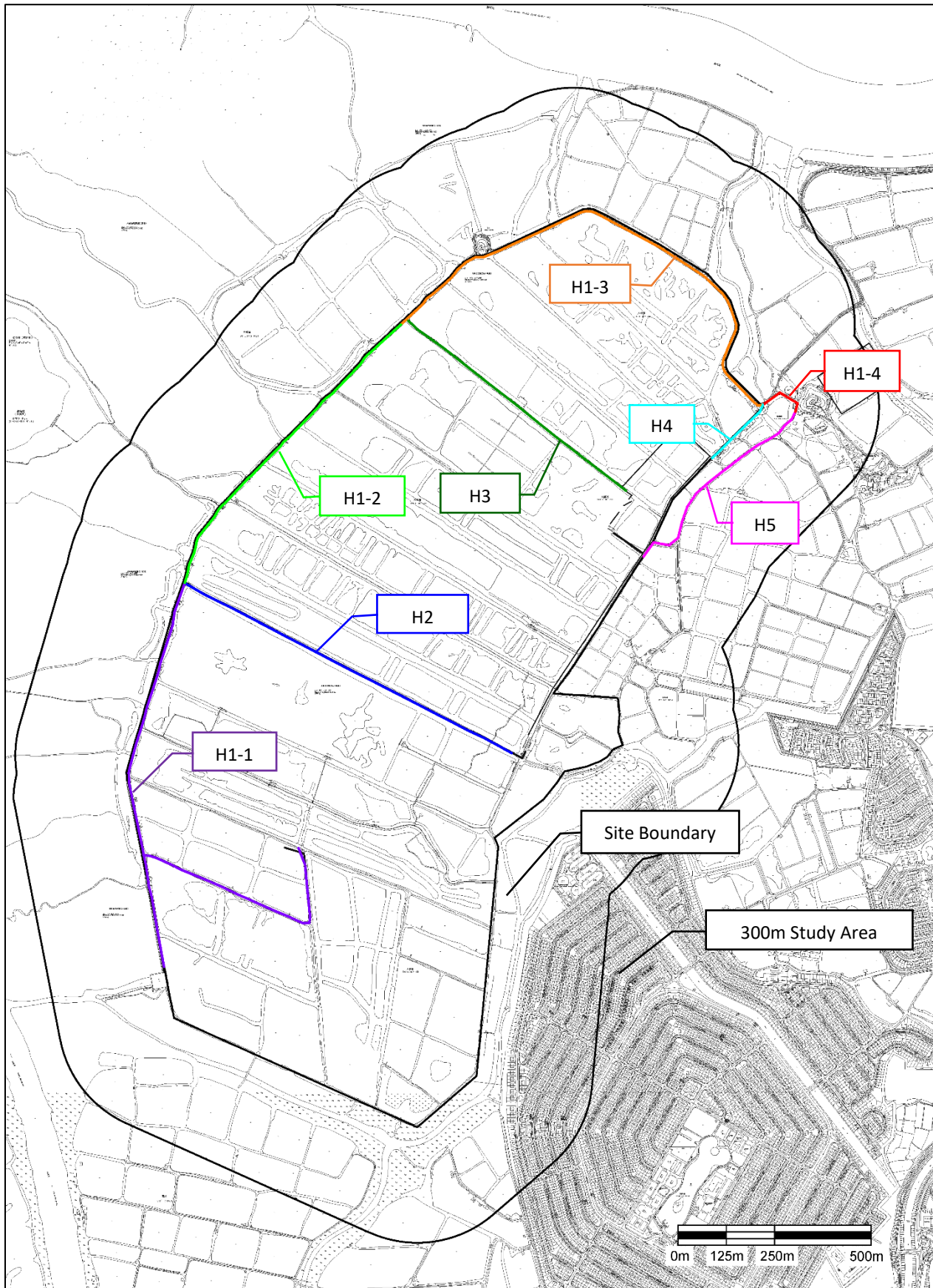
Phase 1 Construction Works Area of TH2 and Location of Notional Sources



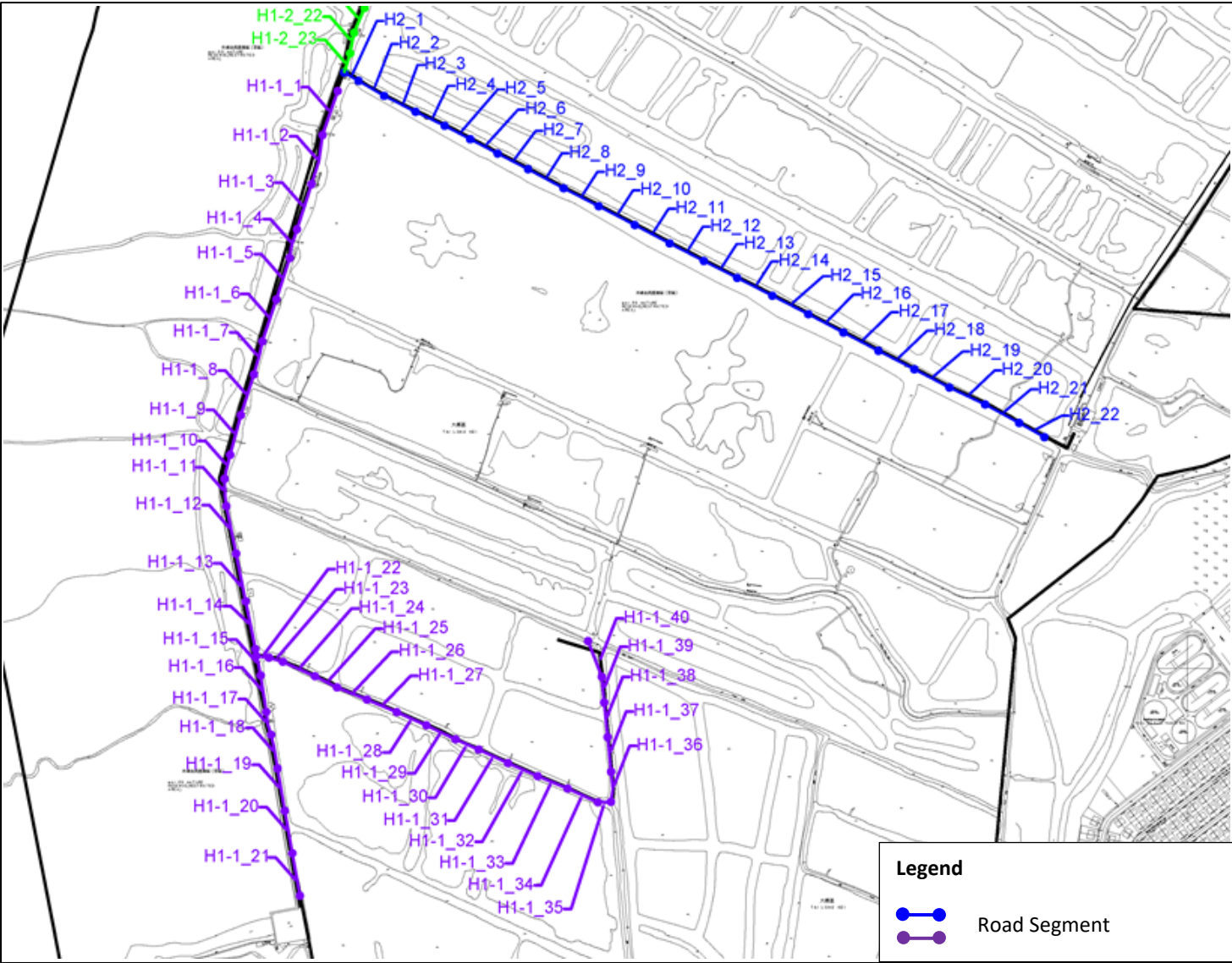
Phase 1 Construction Works Area of TH3 and Location of Notional Sources



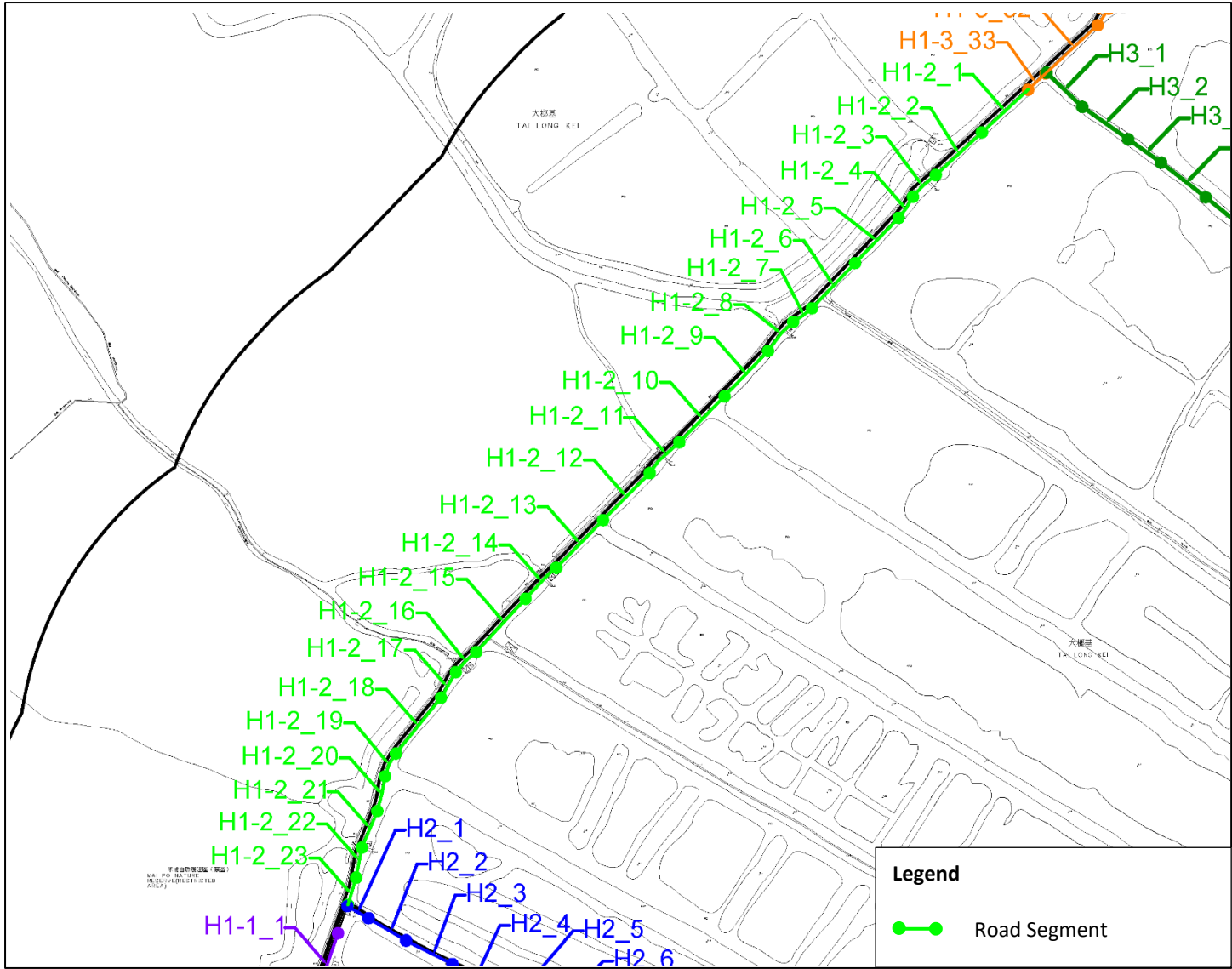
Location of Haul Road



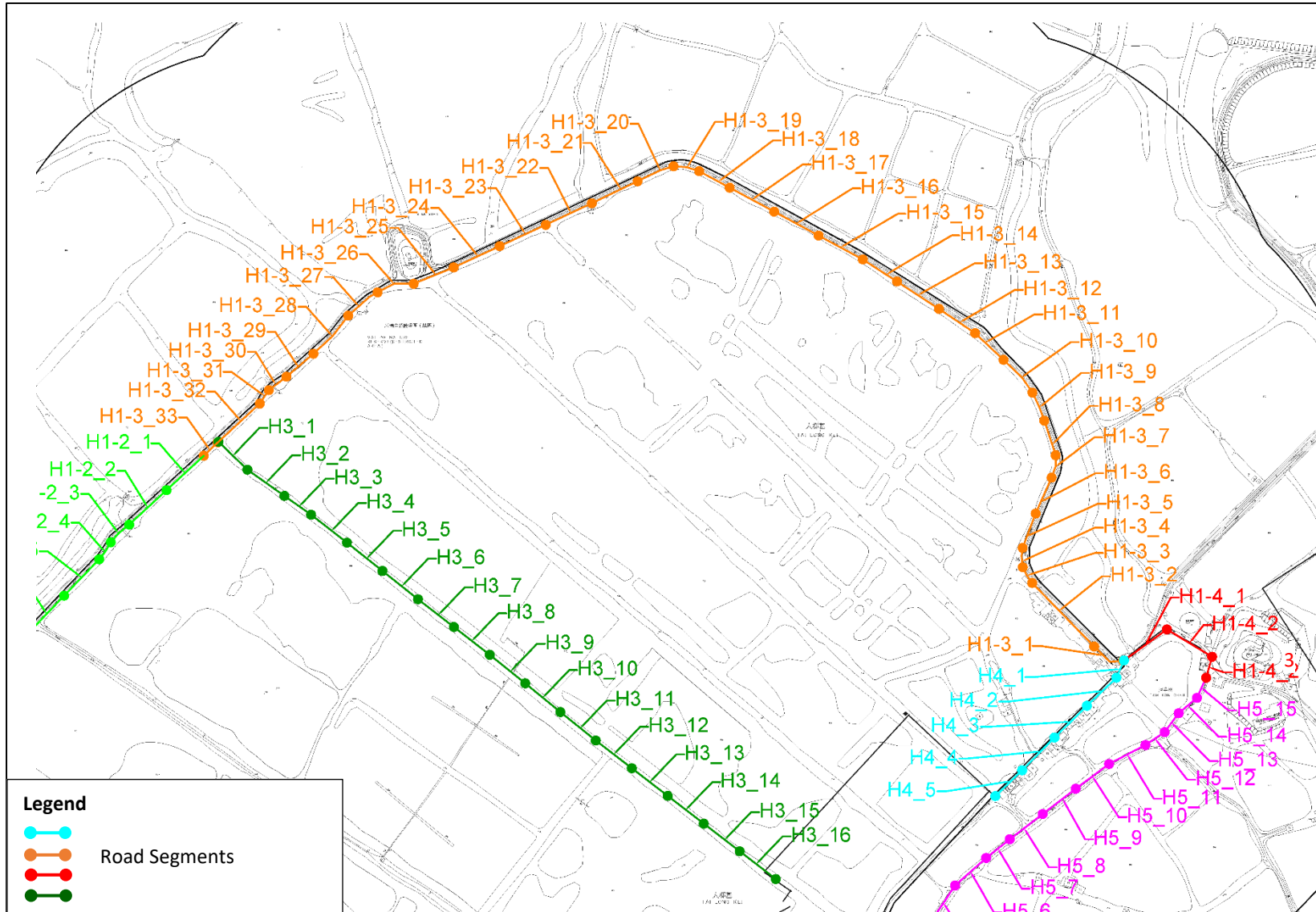
Road Segments of Haul Road No. H1-1 and H2



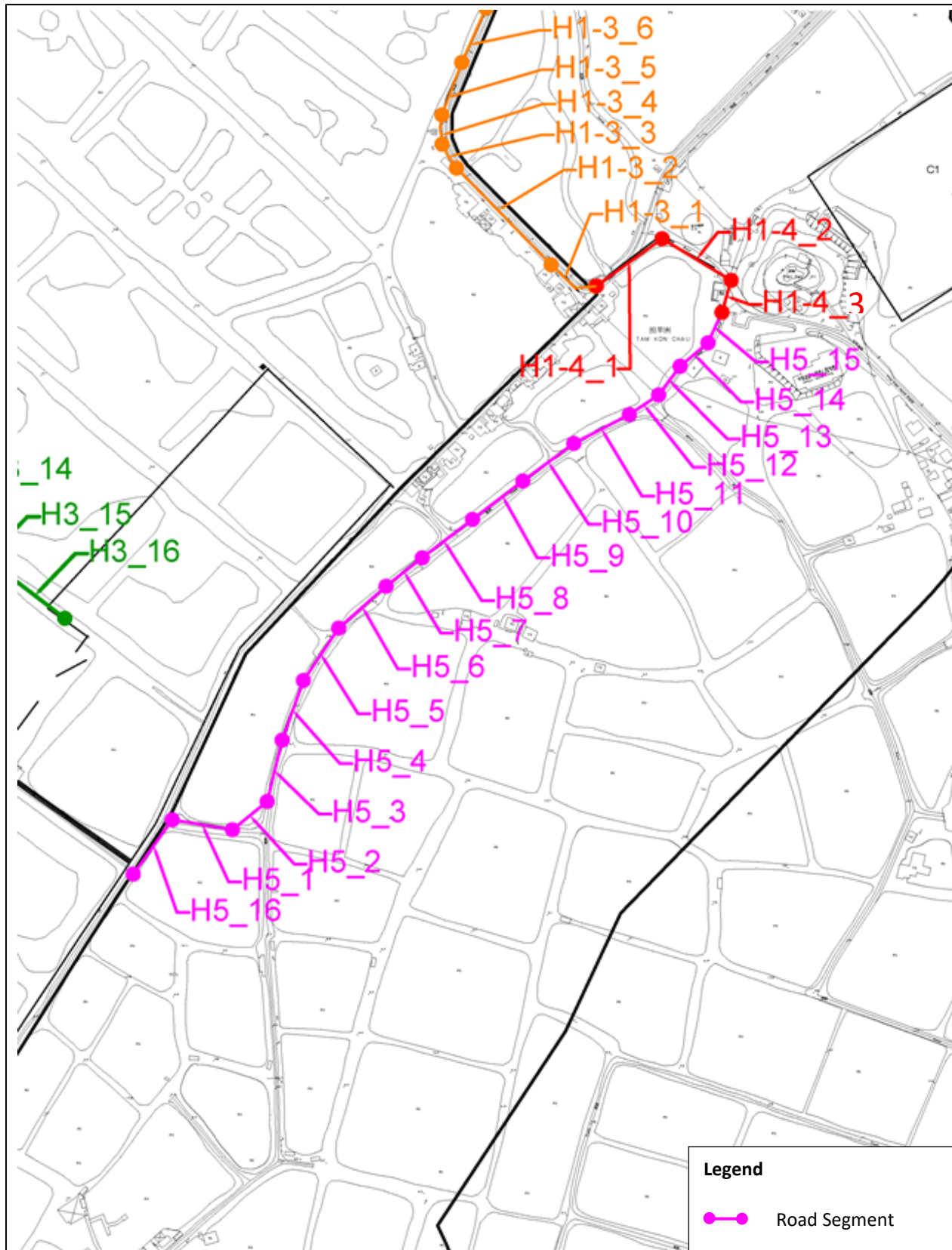
Road Segments of Haul Road No. H1-2



Road Segments of Haul Road No. H1-3, H1-4 and H3



Road Segments of Haul Road No. H5



Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H1-1																			
H1-1_1	Segment 1	821480.6	839121.6	821454.0	839045.0	821467.3	839083.3	Distance, m	1764.3	1669.8	1530.9	1593.8	1446.1	1311.5	1240.8	1259.8	1526.4	1681.9	
								View angle, deg =	2.2	2.3	2.3	2.3	2.7	3.5	3.7	3.4	2.4	2.3	
H1-1_2	Segment 2	821454.0	839045.0	821440.6	838985.5	821447.3	839015.3	Distance, m	1800.5	1709.1	1575.1	1634.7	1484.1	1307.0	1226.9	1229.4	1482.3	1720.6	
								View angle, deg =	1.7	1.8	1.8	1.8	2.0	2.7	2.8	2.5	1.8	1.8	
H1-1_3	Segment 3	821440.6	838985.5	821423.1	838930.9	821431.9	838958.2	Distance, m	1831.1	1742.3	1612.4	1669.3	1516.5	1304.9	1217.1	1205.5	1446.1	1753.3	
								View angle, deg =	1.5	1.5	1.5	1.5	1.7	2.5	2.7	2.6	1.9	1.5	
H1-1_4	Segment 4	821423.1	838930.9	821414.4	838896.4	821418.8	838913.7	Distance, m	1857.0	1770.1	1643.4	1698.2	1543.9	1306.1	1212.3	1189.4	1419.6	1780.8	
								View angle, deg =	0.9	0.9	0.9	1.0	1.1	1.6	1.7	1.6	1.2	0.9	
H1-1_5	Segment 5	821414.4	838896.4	821398.2	838846.1	821406.3	838871.3	Distance, m	1882.3	1797.3	1673.5	1726.4	1570.8	1308.8	1209.4	1175.5	1395.3	1807.7	
								View angle, deg =	1.3	1.3	1.3	1.3	1.5	2.3	2.5	2.5	1.9	1.3	
H1-1_6	Segment 6	821398.2	838846.1	821381.3	838795.4	821389.8	838820.8	Distance, m	1915.0	1832.2	1711.7	1762.4	1605.4	1315.6	1209.7	1162.5	1368.9	1842.1	
								View angle, deg =	1.2	1.2	1.2	1.3	1.4	2.3	2.5	2.6	2.0	1.2	
H1-1_7	Segment 7	821381.3	838795.4	821371.1	838755.5	821376.2	838775.5	Distance, m	1943.9	1863.0	1745.5	1794.3	1636.1	1322.2	1210.7	1151.6	1345.6	1872.5	
								View angle, deg =	1.0	1.0	1.0	1.0	1.1	1.8	1.9	2.0	1.5	1.0	
H1-1_8	Segment 8	821371.1	838755.5	821355.2	838706.4	821363.2	838731.0	Distance, m	1972.7	1893.6	1779.1	1826.0	1666.8	1330.0	1213.3	1142.5	1323.8	1902.9	
								View angle, deg =	1.1	1.1	1.1	1.1	1.3	2.2	2.4	2.6	2.0	1.1	
H1-1_9	Segment 9	821355.2	838706.4	821342.3	838658.3	821348.8	838682.4	Distance, m	2005.1	1928.0	1816.5	1861.5	1701.2	1340.5	1218.2	1134.8	1301.6	1936.9	
								View angle, deg =	1.1	1.1	1.1	1.1	1.2	2.1	2.3	2.5	2.0	1.1	
H1-1_10	Segment 10	821342.3	838658.3	821335.5	838629.3	821338.9	838643.8	Distance, m	2029.9	1954.4	1845.3	1888.7	1727.7	1348.6	1222.0	1128.7	1283.9	1963.0	
								View angle, deg =	0.7	0.7	0.6	0.7	0.7	1.2	1.4	1.5	1.2	0.7	
H1-1_11	Segment 11	821335.5	838629.3	821337.6	838596.3	821336.6	838612.8	Distance, m	2045.1	1971.0	1864.1	1906.1	1744.5	1350.3	1220.5	1119.7	1266.0	1979.4	
								View angle, deg =	0.9	0.9	0.9	0.9	1.0	1.4	1.5	1.5	1.1	0.9	
H1-1_12	Segment 12	821337.6	838596.3	821349.4	838538.8	821343.5	838567.6	Distance, m	2058.7	1986.8	1883.6	1923.3	1760.8	1343.7	1209.3	1098.0	1232.7	1994.8	
								View angle, deg =	1.6	1.6	1.6	1.6	1.8	2.5	2.7	2.7	1.8	1.6	
H1-1_13	Segment 13	821349.4	838538.8	821361.1	838481.1	821355.3	838510.0	Distance, m	2074.7	2005.9	1907.3	1944.1	1780.5	1334.6	1194.5	1069.9	1189.0	2013.3	
								View angle, deg =	1.6	1.6	1.6	1.6	1.8	2.5	2.7	2.8	1.9	1.6	
H1-1_14	Segment 14	821361.1	838481.1	821372.8	838423.5	821367.0	838452.3	Distance, m	2092.4	2026.5	1932.6	1966.5	1801.9	1328.1	1182.6	1044.3	1146.7	2033.4	
								View angle, deg =	1.5	1.5	1.6	1.6	1.7	2.5	2.8	2.9	2.1	1.5	
H1-1_15	Segment 15	821372.8	838423.5	821379.2	838391.6	821376.0	838407.6	Distance, m	2107.2	2043.6	1953.3	1984.9	1819.7	1324.9	1175.3	1026.4	1114.9	2050.1	
								View angle, deg =	0.8	0.8	0.8	0.9	0.9	1.4	1.6	1.7	1.2	0.8	
H1-1_16	Segment 16	821379.2	838391.6	821385.9	838347.4	821382.6	838369.5	Distance, m	2121.4	2059.7	1972.4	2002.2	1836.6	1324.5	1171.6	1013.7	1089.7	2065.9	
								View angle, deg =	1.1	1.1	1.1	1.1	1.2	1.9	2.2	2.4	1.8	1.1	
H1-1_17	Segment 17	821385.9	838347.4	821391.8	838319.8	821388.9	838333.6	Distance, m	2135.3	2075.4	1990.9	2018.9	1853.0	1325.1	1169.1	1002.8	1066.5	2081.3	
								View angle, deg =	0.7	0.7	0.7	0.7	0.8	1.2	1.4	1.5	1.1	0.7	
H1-1_18	Segment 18	821391.8	838319.8	821399.6	838279.2	821395.7	838299.5	Distance, m	2148.2	2090.0	2008.2	2034.6	1868.4	1325.7	1167.0	992.7	1044.4	2095.6	
								View angle, deg =	1.0	1.0	1.0	1.0	1.1	1.8	2.0	2.3	1.8	1.0	
H1-1_19	Segment 19	821399.6	838279.2	821408.3	838227.9	821404.0	838253.6	Distance, m	2167.2	2111.3	2033.0	2057.3	1890.7	1328.9	1166.7	981.8	1016.6	2116.5	
								View angle, deg =	1.2	1.2	1.2	1.3	1.4	2.2	2.6	3.0	2.4	1.2	
H1-1_20	Segment 20	821408.3	838227.9	821417.5	838176.5	821412.9	838202.2	Distance, m	2189.7	2136.2	2061.8	2083.7	1916.9	1334.7	1168.9	972.5	987.5	2141.1	
								View angle, deg =	1.2	1.2	1.2	1.2	1.3	2.2	2.6	3.0	2.5	1.2	
H1-1_21	Segment 21	821417.5	838176.5	821426.6	838125.2	821422.1	838150.9	Distance, m	2212.9	2162.0	2091.4	2111.0	1944.0	1342.3	1173.2	965.7	960.1	2166.4	
								View angle, deg =	1.2	1.2	1.2	1.2	1.3	2.2	2.5	3.1	2.7	1.2	

PME = *Dump truck , gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 1 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL
H1-1_1	10.4	10.8	11.2	11.1	12.1	13.7	14.2	13.7	11.5	10.7
H1-1_2	9.2	9.6	10.0	9.9	10.8	12.5	13.0	12.6	10.2	9.5
H1-1_3	8.5	8.8	9.1	9.0	10.0	12.3	12.9	12.7	10.6	8.7
H1-1_4	6.4	6.7	7.0	7.0	7.9	10.2	10.8	10.7	8.6	6.7
H1-1_5	7.8	8.0	8.3	8.2	9.2	11.9	12.6	12.7	10.7	8.0
H1-1_6	7.6	7.8	8.0	8.0	8.9	11.9	12.6	12.9	11.0	7.7
H1-1_7	6.5	6.7	6.9	6.9	7.8	10.7	11.5	11.8	9.9	6.7
H1-1_8	7.1	7.2	7.4	7.4	8.3	11.6	12.4	12.9	11.3	7.2
H1-1_9	6.9	7.0	7.2	7.2	8.1	11.4	12.3	12.8	11.2	7.0
H1-1_10	4.6	4.7	4.9	4.9	5.8	9.1	10.0	10.7	9.1	4.7
H1-1_11	5.7	5.9	6.2	6.1	6.9	9.6	10.4	10.8	8.8	5.9
H1-1_12	8.3	8.5	8.8	8.8	9.6	12.1	12.9	13.3	11.1	8.5
H1-1_13	8.2	8.4	8.7	8.6	9.4	12.2	13.1	13.6	11.6	8.4
H1-1_14	8.1	8.3	8.5	8.5	9.3	12.2	13.2	13.9	12.0	8.3
H1-1_15	5.4	5.6	5.8	5.8	6.6	9.7	10.7	11.6	9.8	5.6
H1-1_16	6.6	6.8	6.9	6.9	7.7	11.1	12.1	13.2	11.7	6.8
H1-1_17	4.6	4.8	5.0	5.0	5.7	9.1	10.1	11.3	9.8	4.8
H1-1_18	6.2	6.3	6.5	6.5	7.2	10.7	11.8	13.1	11.8	6.3
H1-1_19	7.0	7.1	7.2	7.3	8.0	11.7	12.8	14.3	13.2	7.1
H1-1_20	6.9	7.0	7.1	7.2	7.9	11.7	12.8	14.4	13.5	7.0
H1-1_21	6.8	6.9	6.9	7.0	7.7	11.6	12.8	14.5	13.9	6.9
Haul Road No. H1-1 Overall SPL	20.5	20.7	21.0	21.0	21.8	24.7	25.5	26.1	24.5	20.7

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H1-1																			
H1-1_22	Segment 1	821373.9	838415.1	821389.2	838413.1	821381.5	838414.1	Distance, m	2099.1	2035.3	1944.9	1976.6	1811.5	1318.5	1169.4	1022.2	1113.7	2041.9	
								View angle, deg =	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.3	0.3	
H1-1_23	Segment 2	821389.2	838413.1	821406.1	838408.1	821397.6	838410.6	Distance, m	2087.1	2023.9	1934.6	1965.6	1800.3	1303.1	1153.5	1005.7	1098.2	2030.4	
								View angle, deg =	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.1	0.3	0.4	
H1-1_24	Segment 3	821406.1	838408.1	821444.8	838390.7	821425.4	838399.4	Distance, m	2069.2	2007.4	1920.3	1949.9	1784.3	1277.3	1126.5	976.3	1068.8	2013.6	
								View angle, deg =	1.0	1.0	1.1	1.1	1.2	1.0	1.0	0.6	0.3	1.0	
H1-1_25	Segment 4	821444.8	838390.7	821471.6	838377.0	821458.2	838383.9	Distance, m	2049.7	1989.7	1905.5	1933.3	1767.3	1247.5	1095.0	941.3	1032.8	1995.6	
								View angle, deg =	0.7	0.8	0.8	0.8	0.9	0.8	0.8	0.5	0.2	0.8	
H1-1_25	Segment 5	821471.6	838377.0	821507.8	838362.3	821489.7	838369.7	Distance, m	2031.1	1972.7	1891.4	1917.4	1751.1	1219.1	1064.9	907.9	998.7	1978.3	
								View angle, deg =	0.9	1.0	1.1	1.0	1.1	1.0	1.0	0.5	0.4	1.0	
H1-1_27	Segment 6	821507.8	838362.3	821543.9	838347.1	821525.9	838354.7	Distance, m	2009.4	1953.0	1874.9	1898.9	1732.3	1186.7	1030.6	869.8	960.3	1958.3	
								View angle, deg =	0.9	1.0	1.1	1.0	1.1	1.1	1.1	0.6	0.4	1.0	
H1-1_28	Segment 7	821543.9	838347.1	821579.7	838331.3	821561.8	838339.2	Distance, m	1988.8	1934.4	1859.6	1881.5	1714.8	1155.0	996.9	832.0	921.9	1939.3	
								View angle, deg =	1.0	1.0	1.1	1.1	1.2	1.2	1.2	0.7	0.4	1.0	
H1-1_29	Segment 8	821579.7	838331.3	821614.9	838314.3	821597.3	838322.8	Distance, m	1969.6	1917.2	1845.9	1865.7	1698.8	1124.3	964.2	794.5	883.3	1921.8	
								View angle, deg =	1.0	1.1	1.1	1.1	1.2	1.3	1.3	0.9	0.4	1.1	
H1-1_30	Segment 9	821614.9	838314.3	821642.8	838301.9	821628.9	838308.1	Distance, m	1953.1	1902.6	1834.4	1852.3	1685.2	1097.6	935.6	761.4	849.0	1906.9	
								View angle, deg =	0.8	0.8	0.9	0.9	1.0	1.0	1.1	0.7	0.4	0.8	
H1-1_31	Segment 10	821642.8	838301.9	821678.4	838285.6	821660.6	838293.8	Distance, m	1936.8	1888.2	1823.2	1839.1	1672.0	1071.0	907.2	728.3	814.8	1892.1	
								View angle, deg =	1.0	1.1	1.2	1.1	1.2	1.4	1.5	1.0	0.5	1.1	
H1-1_32	Segment 11	821678.4	838285.6	821714.2	838269.8	821696.3	838277.7	Distance, m	1918.9	1872.5	1811.2	1824.9	1657.9	1041.8	875.7	691.3	776.5	1876.1	
								View angle, deg =	1.0	1.1	1.2	1.1	1.3	1.4	1.5	1.1	0.6	1.1	
H1-1_33	Segment 12	821714.2	838269.8	821750.3	838254.8	821732.3	838262.3	Distance, m	1901.1	1857.0	1799.3	1810.8	1643.8	1012.7	844.5	654.3	738.4	1860.1	
								View angle, deg =	1.0	1.1	1.2	1.2	1.3	1.5	1.6	1.1	0.7	1.1	
H1-1_34	Segment 13	821750.3	838254.8	821787.0	838238.1	821768.7	838246.5	Distance, m	1883.8	1842.1	1788.3	1797.4	1630.6	984.0	813.6	617.1	699.9	1844.8	
								View angle, deg =	1.1	1.2	1.2	1.2	1.3	1.7	1.9	1.4	0.8	1.2	
H1-1_35	Segment 14	821787.0	838238.1	821802.8	838238.8	821794.9	838238.4	Distance, m	1869.5	1829.3	1778.1	1785.7	1619.1	962.6	790.9	590.6	674.3	1831.8	
								View angle, deg =	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.1	0.9	0.3	
H1-1_36	Segment 15	821802.8	838238.8	821803.0	838275.0	821802.9	838256.9	Distance, m	1851.3	1810.6	1758.7	1766.6	1600.0	948.3	777.9	583.4	679.8	1813.1	
								View angle, deg =	0.8	0.8	0.7	0.8	0.9	2.0	2.6	3.6	2.4	0.8	
H1-1_37	Segment 16	821803.0	838275.0	821798.9	838316.9	821800.9	838296.0	Distance, m	1827.0	1784.3	1729.5	1739.1	1572.3	936.7	769.7	589.1	707.0	1787.2	
								View angle, deg =	1.1	1.1	1.0	1.0	1.1	2.5	3.1	4.0	2.3	1.1	
H1-1_38	Segment 17	821798.9	838316.9	821794.7	838358.7	821796.8	838337.8	Distance, m	1803.1	1758.1	1700.0	1711.6	1544.7	928.0	765.1	600.0	738.8	1761.4	
								View angle, deg =	1.1	1.1	1.0	1.1	1.2	2.6	3.1	3.8	2.1	1.1	
H1-1_39	Segment 18	821794.7	838358.7	821791.9	838389.9	821793.3	838374.3	Distance, m	1782.7	1735.7	1674.6	1688.0	1521.0	921.7	762.8	611.6	767.3	1739.4	
								View angle, deg =	0.8	0.8	0.8	0.8	0.9	1.9	2.3	2.8	1.5	0.8	
H1-1_40	Segment 19	821791.9	838389.9	821775.2	838433.1	821783.5	838411.5	Distance, m	1767.5	1718.1	1653.3	1668.9	1501.8	922.8	768.5	631.3	801.1	1722.1	
								View angle, deg =	1.4	1.4	1.4	1.5	1.6	2.8	3.3	3.3	1.2	1.5	

PME = *Dump truck, gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 1 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL
H1-1_22	0.4	0.9	1.7	1.3	2.0	0.8	0.1	-3.4	4.2	0.9
H1-1_23	1.8	2.2	2.9	2.6	3.3	3.4	3.5	-0.7	3.1	2.2
H1-1_24	6.2	6.6	7.2	6.9	7.7	8.6	9.0	7.2	4.5	6.5
H1-1_25	4.9	5.3	5.9	5.6	6.4	7.7	8.2	7.0	1.8	5.3
H1-1_26	6.0	6.4	6.9	6.7	7.5	8.6	9.1	7.2	5.9	6.3
H1-1_27	6.1	6.5	7.1	6.9	7.6	9.0	9.6	8.0	6.1	6.5
H1-1_28	6.3	6.7	7.2	7.0	7.8	9.5	10.2	8.8	6.3	6.6
H1-1_29	6.5	6.9	7.4	7.2	8.0	10.0	10.8	9.9	6.0	6.8
H1-1_30	5.5	5.8	6.3	6.1	7.0	9.1	10.0	9.0	6.2	5.8
H1-1_31	6.7	7.0	7.5	7.3	8.2	10.5	11.5	10.8	7.5	7.0
H1-1_32	6.8	7.1	7.6	7.4	8.3	10.8	11.9	11.3	8.5	7.1
H1-1_33	6.9	7.2	7.6	7.5	8.3	11.1	12.2	11.7	9.5	7.2
H1-1_34	7.2	7.5	7.9	7.8	8.6	11.7	13.0	13.0	9.7	7.5
H1-1_35	1.6	2.1	2.8	2.5	3.4	4.6	5.2	2.2	10.6	2.1
H1-1_36	6.0	5.9	5.6	5.9	6.7	12.8	14.6	17.3	14.8	5.9
H1-1_37	7.2	7.1	7.0	7.2	8.1	13.7	15.5	17.7	14.5	7.2
H1-1_38	7.3	7.3	7.2	7.4	8.3	13.8	15.6	17.5	13.9	7.4
H1-1_39	6.2	6.2	6.1	6.3	7.2	12.6	14.3	16.0	12.2	6.2
H1-1_40	8.5	8.7	8.8	8.9	9.8	14.3	15.8	16.6	11.2	8.7
Haul Road No. H1-1 Overall SPL	18.9	19.1	19.5	19.4	20.2	23.5	24.8	25.6	22.7	19.1

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H1-2																			
H1-2_1	Segment 1	822039.9	839791.5	822002.0	839756.4	822021.0	839773.9	Distance, m	1197.5	1073.5	885.2	985.6	903.1	1349.1	1401.5	1595.7	1977.7	1091.9	
								View angle, deg =	2.1	2.3	2.6	2.5	2.9	2.1	2.0	1.6	1.2	2.2	
H1-2_2	Segment 2	822002.0	839756.4	821964.0	839721.3	821983.0	839738.9	Distance, m	1226.8	1104.1	918.1	1016.3	927.3	1338.3	1384.1	1570.9	1949.3	1122.1	
								View angle, deg =	2.0	2.1	2.4	2.3	2.8	2.2	2.0	1.7	1.3	2.1	
H1-2_3	Segment 3	821964.0	839721.3	821945.2	839703.4	821954.6	839712.3	Distance, m	1249.6	1128.0	943.8	1040.3	946.7	1331.2	1372.0	1552.9	1928.5	1145.7	
								View angle, deg =	1.0	1.0	1.2	1.1	1.4	1.1	1.0	0.8	0.6	1.0	
H1-2_4	Segment 4	821945.2	839703.4	821933.4	839686.1	821939.3	839694.8	Distance, m	1261.7	1140.7	957.8	1053.2	956.9	1325.1	1363.0	1540.3	1914.2	1158.3	
								View angle, deg =	0.9	0.9	1.1	1.0	1.2	0.8	0.8	0.6	0.4	0.9	
H1-2_5	Segment 5	821933.4	839686.1	821897.7	839649.0	821915.6	839667.6	Distance, m	1281.1	1161.2	980.2	1074.0	973.5	1316.5	1349.7	1521.5	1892.6	1178.5	
								View angle, deg =	1.9	2.0	2.2	2.1	2.6	2.2	2.1	1.7	1.3	2.0	
H1-2_6	Segment 6	821897.7	839649.0	821862.1	839611.8	821879.9	839630.4	Distance, m	1311.9	1193.6	1015.4	1106.9	1001.1	1308.3	1334.6	1497.9	1864.4	1210.5	
								View angle, deg =	1.8	1.9	2.1	2.0	2.5	2.2	2.1	1.8	1.3	1.9	
H1-2_7	Segment 7	821862.1	839611.8	821846.8	839600.6	821854.4	839606.2	Distance, m	1334.9	1217.6	1041.2	1131.3	1022.3	1305.4	1326.8	1484.0	1847.2	1234.3	
								View angle, deg =	0.5	0.6	0.6	0.6	0.8	0.8	0.8	0.7	0.5	0.6	
H1-2_8	Segment 8	821846.8	839600.6	821826.1	839576.7	821836.4	839588.6	Distance, m	1351.4	1234.9	1059.8	1148.8	1037.7	1303.6	1321.5	1474.2	1834.9	1251.5	
								View angle, deg =	1.1	1.1	1.2	1.2	1.5	1.4	1.3	1.1	0.8	1.1	
H1-2_9	Segment 9	821826.1	839576.7	821790.3	839539.4	821808.2	839558.1	Distance, m	1377.7	1262.6	1089.8	1177.0	1062.2	1299.5	1311.6	1456.8	1813.3	1278.8	
								View angle, deg =	1.6	1.7	1.8	1.8	2.2	2.3	2.2	1.9	1.4	1.7	
H1-2_10	Segment 10	821790.3	839539.4	821753.0	839501.5	821771.7	839520.5	Distance, m	1412.9	1299.4	1129.4	1214.4	1095.6	1297.5	1302.3	1437.6	1788.2	1315.3	
								View angle, deg =	1.6	1.6	1.7	1.7	2.1	2.3	2.3	2.0	1.5	1.6	
H1-2_11	Segment 11	821753.0	839501.5	821728.8	839476.3	821740.9	839488.9	Distance, m	1443.3	1331.2	1163.6	1246.8	1124.9	1297.6	1296.1	1422.8	1768.1	1346.8	
								View angle, deg =	1.0	1.0	1.1	1.1	1.3	1.5	1.5	1.3	1.0	1.0	
H1-2_12	Segment 12	821728.8	839476.3	821690.5	839437.7	821709.6	839457.0	Distance, m	1474.9	1364.3	1199.0	1280.5	1155.6	1299.3	1291.4	1409.2	1748.8	1379.5	
								View angle, deg =	1.5	1.5	1.6	1.6	1.9	2.4	2.4	2.1	1.6	1.5	
H1-2_13	Segment 13	821690.5	839437.7	821651.9	839398.4	821671.2	839418.1	Distance, m	1514.7	1405.7	1243.2	1322.7	1194.6	1303.7	1287.9	1394.4	1726.5	1420.6	
								View angle, deg =	1.4	1.4	1.5	1.5	1.8	2.4	2.4	2.2	1.7	1.4	
H1-2_14	Segment 14	821651.9	839398.4	821626.6	839373.0	821639.3	839385.7	Distance, m	1548.4	1440.8	1280.5	1358.4	1227.8	1309.1	1286.8	1383.6	1709.1	1455.5	
								View angle, deg =	0.9	0.9	0.9	0.9	1.1	1.6	1.6	1.4	1.1	0.9	
H1-2_15	Segment 15	821626.6	839373.0	821586.1	839329.3	821606.4	839351.2	Distance, m	1583.9	1477.7	1319.8	1396.0	1263.0	1315.5	1286.5	1373.0	1691.2	1492.1	
								View angle, deg =	1.4	1.5	1.5	1.5	1.8	2.6	2.7	2.4	1.9	1.5	
H1-2_16	Segment 16	821586.1	839329.3	821569.2	839312.7	821577.7	839321.0	Distance, m	1615.4	1510.5	1354.6	1429.3	1294.4	1322.5	1287.7	1365.1	1676.4	1524.6	
								View angle, deg =	0.5	0.5	0.5	0.5	0.7	1.0	1.1	1.0	0.8	0.5	
H1-2_17	Segment 17	821569.2	839312.7	821557.2	839291.8	821563.2	839302.3	Distance, m	1631.8	1527.7	1373.1	1446.9	1310.8	1324.7	1286.6	1358.7	1666.2	1541.6	
								View angle, deg =	0.7	0.7	0.7	0.7	0.8	1.0	1.1	0.9	0.7	0.7	
H1-2_18	Segment 18	821557.2	839291.8	821519.9	839245.8	821538.6	839268.8	Distance, m	1660.4	1557.7	1405.3	1477.5	1339.4	1328.5	1284.7	1347.6	1648.1	1571.4	
								View angle, deg =	1.4	1.4	1.4	1.5	1.7	2.5	2.6	2.5	1.9	1.4	
H1-2_19	Segment 19	821519.9	839245.8	821511.1	839227.2	821515.5	839236.5	Distance, m	1687.8	1586.4	1436.2	1506.9	1367.0	1332.8	1283.5	1337.5	1631.1	1599.8	
								View angle, deg =	0.6	0.6	0.6	0.6	0.7	0.9	0.9	0.8	0.6	0.6	
H1-2_20	Segment 20	821511.1	839227.2	821504.8	839198.5	821507.9	839212.9	Distance, m	1699.0	1598.7	1450.2	1519.7	1378.5	1328.4	1275.8	1324.7	1614.4	1611.9	
								View angle, deg =	0.9	1.0	1.0	1.0	1.1	1.2	1.2	1.0	0.7	1.0	
H1-2_21	Segment 21	821504.8	839198.5	821492.1	839168.6	821498.4	839183.6	Distance, m	1713.3	1614.3	1468.1	1536.0	1393.2	1323.7	1267.0	1309.3	1594.1	1627.3	
								View angle, deg =	0.9	0.9	1.0	1.0	1.1	1.4	1.4	1.3	0.9	0.9	
H1-2_22	Segment 22	821492.1	839168.6	821487.4	839143.8	821489.7	839156.2	Distance, m	1727.0	1629.2	1484.9	1551.5	1407.2	1319.7	1259.2	1295.3	1575.3	1641.9	
								View angle, deg =	0.8	0.8	0.8	0.8	0.9	1.1	1.1	0.9	0.6	0.8	
H1-2_23	Segment 23	821487.4	839143.8	821480.6	839121.6	821484.0	839132.7	Distance, m	1737.2	1640.6	1498.1	1563.4	1418.0	1315.2	1251.5	1282.4	1558.5	1653.1	
								View angle, deg =	0.7	0.7	0.7	0.7	0.8	1.0	1.0	0.9	0.6	0.7	

PME = *Dump truck, gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 2 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL
H1-2_1	14.8	15.7	17.2	16.4	17.6	14.4	13.9	12.5	10.4	15.5
H1-2_2	14.5	15.3	16.7	16.0	17.2	14.6	14.1	12.7	10.6	15.2
H1-2_3	11.3	12.1	13.4	12.8	14.0	11.6	11.2	9.8	7.7	12.0
H1-2_4	10.8	11.6	12.9	12.3	13.3	10.5	10.0	8.4	6.2	11.5
H1-2_5	14.1	14.8	16.0	15.5	16.7	14.7	14.3	13.0	10.8	14.7
H1-2_6	13.8	14.5	15.6	15.1	16.3	14.8	14.5	13.1	11.0	14.4
H1-2_7	8.5	9.1	10.0	9.7	11.1	10.5	10.4	9.2	7.2	9.0
H1-2_8	11.4	12.1	13.1	12.7	13.9	12.7	12.4	11.1	8.9	12.0
H1-2_9	13.2	13.7	14.7	14.3	15.6	14.9	14.7	13.5	11.4	13.7
H1-2_10	12.9	13.4	14.3	13.9	15.3	15.0	14.9	13.9	11.7	13.4
H1-2_11	10.9	11.4	12.1	11.8	13.2	13.2	13.2	12.2	10.0	11.3
H1-2_12	12.4	12.9	13.6	13.3	14.7	15.1	15.1	14.2	12.1	12.8
H1-2_13	12.2	12.6	13.2	13.0	14.3	15.1	15.2	14.4	12.3	12.5
H1-2_14	10.0	10.4	10.9	10.7	12.0	13.2	13.4	12.6	10.6	10.3
H1-2_15	12.1	12.4	12.9	12.8	14.1	15.4	15.6	14.9	12.9	12.4
H1-2_16	7.6	7.9	8.3	8.2	9.5	11.2	11.6	11.0	9.1	7.8
H1-2_17	8.6	9.1	9.7	9.4	10.5	11.4	11.6	10.8	8.7	9.0
H1-2_18	11.7	12.0	12.5	12.4	13.6	15.2	15.6	15.1	13.1	12.0
H1-2_19	7.8	8.2	8.8	8.6	9.6	10.7	10.9	10.3	8.1	8.1
H1-2_20	9.8	10.2	10.9	10.6	11.6	12.1	12.2	11.3	8.9	10.2
H1-2_21	9.7	10.1	10.6	10.4	11.4	12.7	13.0	12.4	10.2	10.0
H1-2_22	9.0	9.								

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H1-3																			
H1-3_1	Segment 1	822976.8	839582.8	822947.4	839597.2	822962.1	839590.0	Distance, m	243.8	115.9	80.7	30.7	167.5	1027.0	1188.1	1486.2	1882.3	135.4	
								View angle, deg =	0.2	1.6	3.3	21.5	11.0	1.8	1.6	1.3	1.0	0.8	
H1-3_2	Segment 2	822947.4	839597.2	822884.3	839662.0	822915.8	839629.6	Distance, m	302.8	174.4	21.3	91.6	183.4	1054.2	1210.5	1505.8	1904.7	194.4	
								View angle, deg =	5.4	9.9	148.5	6.3	24.5	4.1	3.8	3.1	2.4	8.3	
H1-3_3	Segment 3	822884.3	839662.0	822874.6	839678.0	822879.4	839670.0	Distance, m	354.2	226.1	38.2	145.7	217.1	1086.6	1238.9	1531.6	1932.4	246.3	
								View angle, deg =	1.4	2.1	3.4	2.0	2.8	0.6	0.6	0.5	0.4	1.9	
H1-3_4	Segment 4	822874.6	839678.0	822874.6	839697.7	822874.6	839687.8	Distance, m	367.7	240.1	56.5	161.8	234.7	1103.4	1254.8	1546.9	1948.1	260.3	
								View angle, deg =	2.6	3.8	7.4	4.7	0.2	0.2	0.2	0.2	0.2	3.5	
H1-3_5	Segment 5	822874.6	839697.7	822887.8	839732.7	822881.2	839715.2	Distance, m	377.9	251.8	81.2	178.8	262.3	1131.4	1283.0	1574.9	1976.2	272.0	
								View angle, deg =	5.5	8.0	14.0	10.0	2.4	0.4	0.2	0.1	0.1	7.4	
H1-3_6	Segment 6	822887.8	839732.7	822904.0	839769.2	822895.9	839751.0	Distance, m	389.3	266.8	115.7	202.1	299.2	1169.3	1321.3	1613.5	2014.7	286.7	
								View angle, deg =	5.6	7.8	8.1	8.7	2.4	0.5	0.3	0.1	0.1	7.3	
H1-3_7	Segment 7	822904.0	839769.2	822908.2	839792.0	822906.1	839780.6	Distance, m	402.6	283.8	145.8	225.2	329.8	1200.2	1352.6	1644.9	2046.0	303.2	
								View angle, deg =	2.7	3.4	1.0	3.0	0.2	0.0	0.1	0.1	0.1	3.2	
H1-3_8	Segment 8	822908.2	839792.0	822896.6	839827.0	822902.4	839809.5	Distance, m	426.4	309.8	174.4	253.7	358.1	1228.0	1379.5	1671.1	2072.6	328.9	
								View angle, deg =	1.9	1.7	4.3	0.1	2.4	0.8	0.8	0.8	0.6	1.8	
H1-3_9	Segment 9	822896.6	839827.0	822884.5	839855.6	822890.5	839841.3	Distance, m	458.3	343.0	206.1	287.6	388.8	1257.4	1407.4	1697.9	2100.0	362.0	
								View angle, deg =	1.1	0.8	3.2	0.4	2.0	0.8	0.8	0.7	0.5	0.9	
H1-3_10	Segment 10	822884.5	839855.6	822855.0	839888.9	822869.8	839872.3	Distance, m	495.4	380.3	238.4	323.9	419.0	1284.8	1432.7	1721.5	2124.4	399.3	
								View angle, deg =	0.2	1.1	6.2	2.8	4.1	1.5	1.5	1.3	1.0	1.0	
H1-3_11	Segment 11	822855.0	839888.9	822826.0	839916.0	822840.5	839902.5	Distance, m	537.3	421.5	272.8	362.9	449.9	1311.0	1456.0	1742.7	2146.3	440.6	
								View angle, deg =	0.5	1.3	4.8	2.5	3.5	1.4	1.3	1.2	0.9	1.2	
H1-3_12	Segment 12	822826.0	839916.0	822789.3	839940.8	822807.6	839928.4	Distance, m	578.4	461.4	306.0	400.3	478.6	1333.4	1475.3	1759.5	2163.9	480.7	
								View angle, deg =	1.2	2.0	5.3	3.2	4.0	1.7	1.6	1.4	1.1	1.9	
H1-3_13	Segment 13	822789.3	839940.8	822746.4	839968.7	822767.8	839954.8	Distance, m	624.4	506.0	344.0	442.2	510.8	1356.6	1494.9	1776.1	2181.2	525.6	
								View angle, deg =	1.2	2.0	4.9	3.1	4.1	1.9	1.8	1.5	1.3	1.9	
H1-3_14	Segment 14	822746.4	839968.7	822711.7	839991.1	822729.0	839979.9	Distance, m	669.2	549.6	382.7	483.6	543.9	1380.0	1514.8	1792.8	2198.3	569.3	
								View angle, deg =	0.9	1.4	3.2	2.1	2.9	1.5	1.4	1.2	1.0	1.3	
H1-3_15	Segment 15	822711.7	839991.1	822666.5	840015.5	822689.1	840003.3	Distance, m	713.6	593.0	421.9	525.0	577.5	1402.7	1533.8	1808.6	2214.3	612.8	
								View angle, deg =	1.3	1.8	3.7	2.6	3.5	1.8	1.8	1.5	1.3	1.7	
H1-3_16	Segment 16	822666.5	840015.5	822621.2	840039.9	822643.9	840027.7	Distance, m	762.7	641.0	466.0	571.1	615.5	1427.7	1554.7	1825.7	2231.4	660.9	
								View angle, deg =	1.1	1.6	3.1	2.2	3.1	1.8	1.7	1.5	1.2	1.5	
H1-3_17	Segment 17	822621.2	840039.9	822576.0	840064.2	822598.6	840052.0	Distance, m	812.1	689.6	511.6	618.1	655.4	1454.2	1576.9	1844.1	2249.5	709.6	
								View angle, deg =	1.0	1.4	2.6	1.9	2.7	1.7	1.7	1.5	1.2	1.3	
H1-3_18	Segment 18	822576.0	840064.2	822544.9	840081.0	822560.4	840072.6	Distance, m	854.0	730.9	550.9	658.3	690.3	1477.5	1596.8	1860.5	2265.7	750.9	
								View angle, deg =	0.6	0.8	1.5	1.1	1.7	1.1	1.1	1.0	0.8	0.8	
H1-3_19	Segment 19	822544.9	840081.0	822518.8	840086.0	822531.8	840083.5	Distance, m	882.4	758.8	577.1	685.2	713.0	1491.0	1607.7	1868.9	2273.7	778.9	
								View angle, deg =	0.9	1.1	1.7	1.4	1.7	1.0	0.9	0.8	0.7	1.1	
H1-3_20	Segment 20	822518.8	840086.0	822482.0	840070.8	822500.4	840078.4	Distance, m	902.5	777.9	593.6	702.7	723.8	1489.5	1603.3	1861.6	2265.9	798.0	
								View angle, deg =	2.3	2.7	3.6	3.0	3.1	1.5	1.3	1.1	0.9	2.6	
H1-3_21	Segment 21	822482.0	840070.8	822435.4	840048.3	822458.7	840059.5	Distance, m	922.7	796.7	608.8	719.1	729.9	1476.7	1586.2	1840.6	2244.2	817.0	
								View angle, deg =	2.9	3.4	4.6	3.8	4.0	1.9	1.7	1.4	1.2	3.3	
H1-3_22	Segment 22	822435.4	840048.3	822388.5	840026.4	822412.0	840037.4	Distance, m	946.9	819.8	628.7	739.8	739.3	1462.8	1567.5	1817.2	2219.7	840.0	
								View angle, deg =	2.7	3.2	4.3	3.6	3.9	2.0	1.8	1.5	1.2	3.1	
H1-3_23	Segment 23	822388.5	840026.4	822341.6	840004.8	822365.1	840015.6	Distance, m	973.6	845.8	652.5	763.8	752.5	1451.1	1550.7	1795.3	2196.6	866.0	
								View angle, deg =	2.6	3.0	3.9	3.4	3.8	2.0	1.8	1.5	1.2	2.9	
H1-3_24	Segment 24	822341.6	840004.8	822294.6	839983.0	822318.1	839993.9	Distance, m	1002.3	874.1	679.5	790.5	769.1	1441.3	1535.5	1774.8	2174.5	894.2	
								View angle, deg =	2.4	2.8	3.6	3.2	3.6	2.0	1.9	1.5	1.2	2.7	
H1-3_25	Segment 25	822294.6	839983.0	822253.9	839966.4	822274.3	839974.7	Distance, m	1031.3	902.9	707.7	818.1	788.1	1434.7	1523.8	1757.8	2155.8	922.9	
								View angle, deg =	1.9	2.1	2.8	2.4	2.9	1.7	1.6	1.4	1.1	2.1	
H1-3_26	Segment 26	822253.9	839966.4	822217.1	839957.7	822235.5	839962.0	Distance, m	1059.9	931.6	736.3	846.1	809.5	1434.3	1518.9	1748.1	2144.4	951.5	
								View angle, deg =	1.3	1.5	1.9	1.7	2.1	1.5	1.4	1.2	1.0	1.5	
H1-3_27	Segment 27	822217.1	839957.7	822187.3	839934.0	822202.2	839945.8	Distance, m	1082.9	954.7	759.5	868.6	825.9	1429.9	1510.4	1735.1	2129.8	974.5	
								View angle, deg =	1.8	2.0	2.6	2.3	2.6	1.4	1.3	1.1	0.8	2.0	
H1-3_28	Segment 28	822187.3	839934.0	822151.8	839895.1	822169.5	839914.5	Distance, m	1100.1	972.4	777.6	885.5	834.7	1412.1	1487.9	1707.8	2100.7	991.9	
								View angle, deg =	2.6	2.9	3.6	3.2	3.6	1.9	1.7	1.3	1.0	2.9	
H1-3_29	Segment 29	822151.8	839895.1	822124.2	839871.7	822138.0	839883.4	Distance, m	1117.9	990.7	796.9	903.4	844.9	1395.3	1466.4	1681.3	2072.3	1010.1	
								View angle, deg =	1.6	1.8	2.2	2.0	2.3	1.4	1.3	1.0	0.8	1.8	
H1-3_30	Segment 30	822124.2	839871.7	822106.3	839858.0	822115.3	839864.9	Distance, m	1133.0	1006.2	813.1	918.6	855.5	1387.5	1455.2	1666.5	2056.0	1025.4	
								View angle, deg =	1.0	1.1	1.3	1.2	1.4	0.9	0.8	0.7	0.5	1.0	
H1-3_31	Segment 31	822106.3	839858.0	822097.2	839844.5	822101.8	839851.2	Distance, m	1141.3	1014.9	822.4	927.2	861.0	1380.7	1446.3	1655.3	2043.8	1033.9	
								View angle, deg =	0.8	0.9	1.1	1.0	1.1	0.6	0.5	0.4	0.3	0.9	

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1	NSR2	NSR3	NSR4	NSR5	NSR6	NSR7	NSR8	NSR9	NSR10
								Y =	823184.216 839489.454	823070.8 839549.4	822895.3 839635.2	822985.1 839569.7	822865.2 839453.3	822686.8 838600.6	822549.3 838475.9	822385.2 838220.4	822323.2 837819.4	823086.8 839537.1
Haul Road No. H1-4																		
H1-4_1	Segment 1	823021.5	839614.7	822977.7	839583.1	822999.6	839598.9	Distance, m	214.6	86.7	110.5	32.6	198.1	1046.2	1209.9	1509.2	1903.7	106.9
								View angle, deg =	13.2	33.0	23.1	67.9	3.2	1.8	1.4	1.0	0.9	27.0
H1-4_2	Segment 2	823021.5	839614.7	823067.5	839586.8	823044.5	839600.8	Distance, m	178.6	57.6	153.2	67.0	232.1	1062.2	1229.0	1529.7	1921.8	76.4
								View angle, deg =	2.3	32.1	6.4	39.3	12.5	2.8	2.5	2.0	1.6	18.9
H1-4_3	Segment 3	823067.5	839586.8	823061.4	839565.4	823064.5	839576.1	Distance, m	147.8	27.4	179.3	79.6	234.1	1046.1	1214.9	1516.4	1906.7	44.9
							c=22.3	a=	152.0	37.5	178.9	84.2	242.4	1057.2	1225.9	1527.3	1917.7	53.3
								b=	144.4	18.5	180.3	76.4	226.0	1035.0	1203.9	1505.5	1895.6	38.0
								View angle, deg =	8.1	25.3	7.1	15.0	3.7	0.1	0.2	0.2	0.1	20.7

PME = *Dump truck, gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 4 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL
H1-4_1	33.3	41.3	38.7	48.6	27.5	17.7	16.0	13.8	12.2
H1-4_2	26.5	42.9	31.7	43.1	32.8	19.7	18.5	16.6	14.6
H1-4_3	32.8	45.1	31.4	38.2	27.4	5.8	6.9	5.6	1.8
Haul Road No. H1-4 Overall SPL	36.6	48.2	40.1	50.0	34.8	22.0	20.6	18.7	16.7

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1	NSR2	NSR3	NSR4	NSR5	NSR6	NSR7	NSR8	NSR9	NSR10
								Y =	823184.216 839489.454	823070.8 839549.4	822895.3 839635.2	822985.1 839569.7	822865.2 839453.3	822686.8 838600.6	822549.3 838475.9	822385.2 838220.4	822323.2 837819.4	823086.8 839537.1
Haul Road No. H2																		
H2_1	Segment 1	821480.2	839120.4	821497.5	839110.5	821488.8	839115.5	Distance, m	1736.1	1640.4	1499.4	1563.7	1417.3	1303.9	1238.4	1266.8	1541.4	1652.7
								View angle, deg =	0.4	0.5	0.6	0.5	0.6	0.1	0.0	0.2	0.3	0.5
H2_2	Segment 2	821497.5	839110.5	821528.4	839092.4	821512.9	839101.4	Distance, m	1715.7	1621.0	1481.8	1544.9	1397.3	1276.2	1210.5	1239.8	1516.6	1633.1
								View angle, deg =	0.8	0.9	1.1	1.0	1.0	0.2	0.0	0.4	0.6	0.9
H2_3	Segment 3	821528.4	839092.4	821566.5	839073.1	821547.5	839082.7	Distance, m	1686.5	1593.2	1456.6	1517.9	1368.9	1237.1	1171.3	1202.3	1482.5	1605.0
								View angle, deg =	0.9	1.1	1.3	1.1	1.2	0.1	0.2	0.7	0.9	1.0
H2_4	Segment 4	821566.5	839073.1	821601.8	839056.2	821584.1	839064.7	Distance, m	1655.5	1563.7	1429.9	1489.2	1338.7	1196.3	1130.6	1163.9	1448.0	1575.2
								View angle, deg =	0.9	1.0	1.2	1.1	1.1	0.1	0.2	0.7	0.9	1.0
H2_5	Segment 5	821601.8	839056.2	821632.6	839040.0	821617.2	839048.1	Distance, m	1628.0	1537.6	1406.5	1464.0	1312.2	1159.4	1093.7	1129.2	1417.1	1548.9
								View angle, deg =	0.8	0.9	1.1	1.0	1.1	0.2	0.1	0.6	0.8	0.9
H2_6	Segment 6	821632.6	839040.0	821665.8	839022.6	821649.2	839031.3	Distance, m	1601.9	1513.0	1384.7	1440.3	1287.2	1123.4	1057.7	1095.1	1386.7	1524.0
								View angle, deg =	0.9	1.0	1.2	1.1	1.2	0.2	0.1	0.7	0.8	1.0
H2_7	Segment 7	821665.8	839022.6	821702.6	839003.7	821684.2	839013.1	Distance, m	1573.8	1486.7	1361.5	1415.0	1260.4	1084.1	1018.4	1058.2	1354.0	1497.3
								View angle, deg =	1.1	1.2	1.4	1.3	1.4	0.2	0.2	0.8	1.0	1.2
H2_8	Segment 8	821702.6	839003.7	821745.6	838980.6	821724.1	838992.1	Distance, m	1542.5	1457.4	1336.1	1387.0	1230.8	1039.2	973.4	1016.2	1316.9	1467.7
								View angle, deg =	1.3	1.5	1.8	1.6	1.7	0.3	0.2	1.0	1.2	1.5
H2_9	Segment 9	821745.6	838980.6	821787.9	838958.9	821766.8	838969.8	Distance, m	1509.7	1427.0	1310.1	1358.0	1200.2	991.3	925.3	971.6	1277.8	1436.8
								View angle, deg =	1.3	1.5	1.8	1.6	1.8	0.3	0.3	1.1	1.3	1.5
H2_10	Segment 10	821787.9	838958.9	821831.7	838936.2	821809.8	838947.5	Distance, m	1477.4	1397.2	1285.0	1329.8	1170.4	943.1	877.1	927.3	1239.4	1406.6
								View angle, deg =	1.4	1.6	1.9	1.7	1.9	0.3	0.3	1.2	1.4	1.6
H2_11	Segment 11	821831.7	838936.2	821873.8	838914.0	821852.8	838925.1	Distance, m	1446.1	1368.7	1261.4	1303.0	1142.0	894.9	828.8	883.2	1201.6	1377.5
								View angle, deg =	1.5	1.6	1.9	1.8	2.0	0.3	0.3	1.3	1.4	1.6
H2_12	Segment 12	821873.8	838914.0	821915.1	838892.7	821894.5	838903.3	Distance, m	1416.7	1342.0	1239.9	1278.1	1115.7	848.2	782.0	841.0	1165.6	1350.3
								View angle, deg =	1.5	1.6	1.9	1.8	2.0	0.3	0.3	1.4	1.5	1.6
H2_13	Segment 13	821915.1	838892.7	821955.5	838872.3	821935.3	838882.5	Distance, m	1388.6	1316.8	1219.9	1254.7	1091.2	802.6	736.4	800.5	1131.6	1324.6
								View angle, deg =	1.5	1.7	1.9	1.8	2.0	0.4	0.4	1.6	1.6	1.6
H2_14	Segment 14	821955.5	838872.3	821998.0	838850.6	821976.7	838861.5	Distance, m	1361.0	1292.4	1201.0	1232.2	1067.6	756.4	690.3	760.2	1098.1	1299.6
								View angle, deg =	1.6	1.8	2.1	2.0	2.2	0.4	0.5	1.8	1.7	1.8
H2_15	Segment 15	821998.0	838850.6	822041.5	838828.3	822019.8	838839.5	Distance, m	1333.6	1268.3	1183.1	1210.4	1044.8	708.5	642.3	718.9	1064.2	1274.9
								View angle, deg =	1.7	1.9	2.2	2.1	2.4	0.5	0.6	2.1	1.9	1.9
H2_16	Segment 16	822041.5	838828.3	822084.0	838806.2	822062.7	838817.2	Distance, m	1307.5	1245.9	1167.1	1190.4	1024.0	660.6	594.4	678.4	1031.2	1251.8
								View angle, deg =	1.8	2.0	2.2	2.1	2.4	0.6	0.6	2.3	2.0	1.9
H2_17	Segment 17	822084.0	838806.2	822126.3	838784.0	822105.1	838795.1	Distance, m	1283.2	1225.4	1153.3	1172.3	1005.5	613.3	547.0	639.3	999.7	1230.6
								View angle, deg =	1.9	2.0	2.3	2.2	2.5	0.7	0.7	2.5	2.1	2.0
H2_18	Segment 18	822126.3	838784.0	822169.8	838761.8	822148.0	838772.9	Distance, m	1259.8	1206.0	1141.1	1155.7	988.6	565.6	499.2	601.3	969.4	1210.5
								View angle, deg =	2.0	2.1	2.4	2.3	2.7	0.8	0.9	3.0	2.3	2.1
H2_19	Segment 19	822169.8	838761.8	822212.2	838739.6	822191.0	838750.7	Distance, m	1237.9	1188.3	1130.7	1140.8	973.8	518.0	451.5	564.7	940.6	1192.1
								View angle, deg =	2.0	2.2	2.4	2.3	2.7	1.0	1.0	3.3	2.4	2.1
H2_20	Segment 20	822212.2	838739.6	822255.4	838719.2	822233.8	838729.4	Distance, m	1216.9	1171.7	1121.6	1127.2	960.6	470.9	404.7	531.1	914.3	1174.8
								View angle, deg =	2.0	2.2	2.4	2.3	2.7	1.0	1.6	3.8	2.6	2.2
H2_21	Segment 21	822255.4	838719.2	822296.5	838696.8	822275.9	838708.0	Distance, m	1198.2	1157.5	1115.0	1116.0	950.1	424.6	358.6	499.7	889.8	1159.7
								View angle, deg =	2.1	2.2	2.4	2.4	2.8	1.5	1.5	4.0	2.6	2.2
H2_22	Segment 22	822296.5	838696.8	822326.9	838679.7	822311.7	838688.2	Distance, m	1184.6	1148.0	1112.4	1109.2	944.3	385.2	318.7	473.6	868.9	1149.5
								View angle, deg =	1.6	1.7	1.8	1.8	2.1	1.5	1.3	3.3	2.0	1.7
								Haul Road No. H2 Overall SPL	23.0	23.6	24.5	24.1	25.3	22.2	23.1	27.1	24.3	23.5

PME = *Dump truck, gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 1 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL
H2_1	3.5	4.2	5.3	4.8	5.4	-1.6	-8.7	2.1	2.9
H2_2	6.2	7.0	8.1	7.5	8.2	1.5	-7.9	4.8	5.6
H2_3	6.9	7.7	8.8	8.2</					

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 Y = 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H3																			
H3_1	Segment 1	822055.1	839805.5	822084.5	839777.3	822069.8	839791.4	Distance, m	1154.6	1029.8	840.1	941.8	864.3	1341.2	1400.2	1602.4	1988.2	1048.3	
								View angle, deg =	1.0	1.1	1.5	1.2	1.0	0.6	0.7	0.8	0.7	1.1	
H3_2	Segment 2	822084.5	839777.3	822122.3	839750.6	822103.4	839764.0	Distance, m	1115.2	990.9	802.3	902.9	822.8	1301.5	1363.1	1569.1	1956.9	1009.3	
								View angle, deg =	0.9	1.0	1.5	1.1	0.7	1.0	1.1	1.2	1.0	1.0	
H3_3	Segment 3	822122.3	839750.6	822149.4	839731.5	822135.8	839741.0	Distance, m	1078.1	954.3	766.8	866.4	784.1	1266.6	1331.0	1541.0	1930.7	972.6	
								View angle, deg =	0.7	0.8	1.1	0.9	0.6	0.7	0.9	0.9	0.7	0.8	
H3_4	Segment 4	822149.4	839731.5	822185.9	839703.0	822167.7	839717.2	Distance, m	1041.8	918.5	732.2	830.7	745.8	1231.4	1298.7	1512.6	1904.2	936.6	
								View angle, deg =	1.1	1.3	1.9	1.5	1.1	1.0	1.2	1.2	1.0	1.3	
H3_5	Segment 5	822185.9	839703.0	822222.1	839674.2	822204.0	839688.6	Distance, m	1000.2	877.8	693.3	790.1	701.8	1190.3	1260.9	1479.4	1873.0	895.7	
								View angle, deg =	1.2	1.5	2.1	1.7	1.2	1.0	1.2	1.3	1.0	1.4	
H3_6	Segment 6	822222.1	839674.2	822258.3	839645.4	822240.2	839659.8	Distance, m	959.2	837.8	655.5	750.3	658.2	1149.5	1223.6	1446.7	1842.3	855.4	
								View angle, deg =	1.3	1.6	2.4	1.9	1.4	1.1	1.3	1.3	1.1	1.6	
H3_7	Segment 7	822258.3	839645.4	822295.0	839617.1	822276.6	839631.3	Distance, m	918.6	798.3	618.6	711.1	614.9	1109.3	1187.1	1415.1	1812.4	815.6	
								View angle, deg =	1.4	1.8	2.6	2.0	1.5	1.2	1.4	1.4	1.1	1.7	
H3_8	Segment 8	822295.0	839617.1	822331.5	839588.7	822313.2	839602.9	Distance, m	878.4	759.4	582.9	672.7	571.9	1069.7	1151.5	1384.4	1783.5	776.4	
								View angle, deg =	1.5	1.9	3.0	2.3	1.8	1.3	1.5	1.4	1.2	1.9	
H3_9	Segment 9	822331.5	839588.7	822367.6	839559.8	822349.5	839574.3	Distance, m	839.0	721.6	549.1	635.6	529.7	1030.4	1116.4	1354.4	1755.0	738.2	
								View angle, deg =	1.7	2.2	3.4	2.6	2.2	1.4	1.6	1.5	1.2	2.1	
H3_10	Segment 10	822367.6	839559.8	822403.4	839530.5	822385.5	839545.1	Distance, m	800.7	685.3	517.7	600.1	488.4	991.5	1081.7	1324.8	1726.8	701.4	
								View angle, deg =	1.9	2.5	3.9	2.9	2.6	1.5	1.6	1.5	1.2	2.4	
H3_11	Segment 11	822403.4	839530.5	822439.5	839501.5	822421.5	839516.0	Distance, m	763.2	650.2	488.6	566.2	448.2	953.1	1048.0	1296.2	1699.4	665.7	
								View angle, deg =	2.1	2.7	4.3	3.3	3.0	1.6	1.8	1.6	1.3	2.6	
H3_12	Segment 12	822439.5	839501.5	822476.2	839473.3	822457.8	839487.4	Distance, m	726.4	616.0	461.7	533.7	408.8	915.9	1015.7	1269.1	1673.4	631.0	
								View angle, deg =	2.2	3.0	4.8	3.6	3.5	1.8	1.9	1.7	1.3	2.8	
H3_13	Segment 13	822476.2	839473.3	822512.8	839445.1	822494.5	839459.2	Distance, m	690.4	583.3	437.7	502.9	370.8	879.9	984.8	1243.7	1648.7	597.4	
								View angle, deg =	2.5	3.3	5.3	4.1	4.3	1.9	2.0	1.8	1.4	3.1	
H3_14	Segment 14	822512.8	839445.1	822549.5	839416.9	822531.2	839431.0	Distance, m	655.6	552.4	417.5	474.6	334.8	844.9	955.3	1219.4	1624.9	565.7	
								View angle, deg =	2.7	3.7	5.8	4.6	5.2	2.1	2.2	1.9	1.4	3.5	
H3_15	Segment 15	822549.5	839416.9	822586.2	839388.7	822567.9	839402.8	Distance, m	622.4	523.9	401.5	449.4	301.6	811.0	927.1	1196.4	1602.1	536.1	
								View angle, deg =	3.0	4.1	6.3	5.1	6.5	2.3	2.3	1.9	1.5	3.9	
H3_16	Segment 16	822586.2	839388.7	822622.9	839360.4	822604.5	839374.6	Distance, m	591.0	498.0	390.5	427.7	272.3	778.3	900.4	1174.8	1580.4	509.0	
								View angle, deg =	3.4	4.5	6.7	5.6	7.9	2.5	2.4	2.0	1.5	4.3	

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 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	
H3_1	8.7	9.9	12.0	10.7	9.9	5.7	6.6	6.6	5.1	9.7	
H3_2	8.3	9.6	12.0	10.4	8.9	8.1	8.6	8.2	6.6	9.4	
H3_3	7.3	8.7	11.2	9.5	8.1	7.0	7.5	7.0	5.3	8.4	
H3_4	9.6	11.0	13.6	12.0	10.9	8.5	9.0	8.5	6.7	10.8	
H3_5	10.2	11.7	14.3	12.7	11.9	8.8	9.3	8.7	6.9	11.5	
H3_6	10.8	12.3	15.1	13.4	12.7	9.3	9.7	9.0	7.1	12.1	
H3_7	11.2	12.8	15.7	14.0	13.4	9.8	10.2	9.4	7.4	12.6	
H3_8	11.8	13.5	16.5	14.7	14.4	10.3	10.6	9.6	7.6	13.2	
H3_9	12.6	14.3	17.4	15.5	15.5	10.7	10.9	9.9	7.8	14.0	
H3_10	13.2	15.0	18.2	16.3	16.7	11.1	11.2	10.1	7.9	14.7	
H3_11	13.8	15.6	18.9	17.0	17.7	11.7	11.7	10.4	8.2	15.3	
H3_12	14.3	16.2	19.6	17.7	18.8	12.3	12.2	10.8	8.4	15.9	
H3_13	15.0	17.0	20.3	18.5	20.1	12.8	12.6	11.0	8.6	16.6	
H3_14	15.7	17.7	20.9	19.3	21.4	13.4	13.0	11.3	8.8	17.4	
H3_15	16.3	18.4	21.4	20.0	22.7	13.9	13.4	11.5	9.0	18.1	
H3_16	17.0	19.0	21.8	20.6	24.1	14.4	13.8	11.8	9.2	18.7	
Haul Road No. H1-3	Overall SPL	25.2	27.0	30.1	28.5	30.1	23.2	23.1	21.9	19.7	26.8

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X =	NSR1 823184.216 Y = 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H4																			
H4_1	Segment 1	822977.7	839583.1	822970.0	839565.5	822973.9	839574.3	Distance, m	226.8	100.0	99.5	12.2	162.6	1015.2	1177.6	1476.4	1871.6	118.9	
								View angle, deg =	4.8	10.8	10.7	76.5	2.2	0.1	0.0	0.0	0.0	9.2	
H4_2	Segment 2	822970.0	839565.5	822939.9	839536.9	822955.0	839551.2	Distance, m	237.4	115.8	103.1	35.3	132.8	987.8	1149.3	1447.7	1843.4	132.6	
								View angle, deg =	8.6	14.5	22.6	20.4	1.3	1.2	0.9	0.7	0.6	13.7	
H4_3	Segment 3	822939.9	839536.9	822906.9	839504.5	822923.4	839520.7	Distance, m	262.7	150.1	117.9	78.8	89.0	950.1	1109.8	1407.3	1804.1	164.2	
								View angle, deg =	7.9	9.9	19.3	3.9	2.6	1.4	1.0	0.7	0.6	10.2	
H4_4	Segment 4	822906.9	839504.5	822873.9	839471.2	822890.4	839487.9	Distance, m	293.8	190.6	147.5	125.1	42.7	910.4	1067.9	1364.5	1762.2	202.5	
								View angle, deg =	6.5	6.3	12.5	1.7	13.2	1.6	1.1	0.8	0.7	6.9	
H4_5	Segment 5	822873.9	839471.2	822846.7	839444.9	822860.3	839458.1	Distance, m	325.4	229.4	180.6	167.4	6.8	874.9	1030.2	1325.7	1724.4	239.9	
								View angle, deg =	4.2	3.3	6.9	0.5	140.4	1.4	1.0	0.7	0.6	3.8	

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 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	
H4_1	22.7	29.8	29.8	47.4	20.7	0.6	-5.5	-22.6	-8.3	28.3	
H4_2	25.0	30.4	32.8	37.1	19.3	10.4	8.4	6.0	4.4	29.6	
H4_3	24.2	27.6	31.6	26.4	24.1	11.2	9.2	6.6	5.0	27.4	
H4_4	22.9	24.7	28.7	20.8	34.3	11.8	9.6	6.9	5.2	24.8	
H4_5	20.5	21.1	25.3	14.2	52.6	11.5	9.3	6.6	4.8	21.4	
Haul Road No. H1-4	Overall SPL	30.3	34.8	37.3	47.8	52.6	17.4	15.2	12.6	10.9	34.1

Segment ID	Haul road segments	X1	Y1	X2	Y2	Midpoint X	Midpoint Y	X = Y =	NSR1 823184.216 839489.454	NSR2 823070.8 839549.4	NSR3 822895.3 839635.2	NSR4 822985.1 839569.7	NSR5 822865.2 839453.3	NSR6 822686.8 838600.6	NSR7 822549.3 838475.9	NSR8 822385.2 838220.4	NSR9 822323.2 837819.4	NSR10 823086.8 839537.1	
Haul Road No. H5																			
H5_1	Segment 1	822694.5	839225.5	822734.7	839218.9	822714.6	839222.2	Distance, m	540.3	483.6	450.8	440.3	275.9	622.3	764.4	1054.6	1456.4	1456.4	487.6
								View angle, deg =	2.7	3.8	5.0	4.7	7.7	3.7	3.0	2.2	1.6	3.6	
H5_2	Segment 2	822734.7	839218.9	822757.9	839237.8	822746.3	839228.4	Distance, m	509.8	456.5	433.3	416.6	254.5	630.6	777.8	1070.7	1471.1	1471.1	459.7
								View angle, deg =	0.5	0.4	2.0	1.1	2.6	1.9	1.3	0.8	0.7	0.2	
H5_3	Segment 3	822757.9	839237.8	822767.9	839278.9	822762.9	839258.4	Distance, m	480.5	423.7	399.4	382.5	220.2	662.2	811.1	1104.6	1504.6	1504.6	427.4
								View angle, deg =	3.7	3.1	0.6	2.4	2.7	0.5	0.1	0.2	0.1	3.3	
H5_4	Segment 4	822767.9	839278.9	822782.1	839318.8	822775.0	839298.9	Distance, m	451.4	387.6	357.2	342.8	178.9	703.8	853.4	1146.8	1546.9	1546.9	392.5
								View angle, deg =	3.8	3.2	0.0	2.2	2.6	0.7	0.2	0.0	0.1	3.4	
H5_5	Segment 5	822782.1	839318.8	822805.6	839353.9	822793.9	839336.4	Distance, m	419.3	349.4	315.6	301.7	137.0	743.6	894.6	1188.5	1588.3	1588.3	355.2
								View angle, deg =	3.3	2.2	2.0	0.8	0.8	1.4	0.8	0.5	0.4	2.5	
H5_6	Segment 6	822805.6	839353.9	822837.3	839382.0	822821.5	839367.9	Distance, m	382.6	308.4	277.3	259.8	96.0	779.1	932.6	1227.7	1626.7	1626.7	314.7
								View angle, deg =	2.5	0.8	4.8	1.5	9.6	1.9	1.4	0.9	0.8	1.2	
H5_7	Segment 7	822837.3	839382.0	822861.4	839401.0	822849.3	839391.5	Distance, m	348.9	272.0	248.1	224.0	63.9	807.4	963.5	1259.7	1657.8	1657.8	278.6
								View angle, deg =	1.9	0.3	4.7	2.0	17.2	1.4	1.0	0.7	0.6	0.7	
H5_8	Segment 8	822861.4	839401.0	822895.0	839426.7	822878.2	839413.8	Distance, m	315.2	235.5	222.1	189.0	41.6	835.5	993.9	1291.3	1688.2	1688.2	242.4
								View angle, deg =	3.1	0.4	8.1	4.0	52.4	1.8	1.3	0.9	0.8	1.2	
H5_9	Segment 9	822895.0	839426.7	822928.6	839452.4	822911.8	839439.6	Distance, m	277.0	193.3	196.4	149.4	48.5	868.7	1029.6	1328.1	1723.8	1723.8	200.4
								View angle, deg =	4.0	0.6	10.4	6.5	41.0	1.7	1.2	0.9	0.8	1.8	
H5_10	Segment 10	822928.6	839452.4	822962.5	839477.6	822945.5	839465.0	Distance, m	239.9	151.0	177.5	111.9	81.2	902.4	1065.6	1365.0	1759.4	1759.4	158.6
								View angle, deg =	5.2	0.7	12.8	12.0	14.8	1.6	1.2	0.9	0.7	2.6	
H5_11	Segment 11	822962.5	839477.6	822999.6	839496.9	822981.1	839487.3	Distance, m	203.1	109.1	171.0	82.5	120.7	934.3	1099.7	1400.0	1792.9	1792.9	116.9
								View angle, deg =	5.4	2.9	13.9	25.0	4.0	1.8	1.4	1.0	0.9	0.8	
H5_12	Segment 12	822999.6	839496.9	823019.1	839510.0	823009.4	839503.5	Distance, m	175.4	76.7	174.3	70.5	152.6	958.8	1125.9	1426.9	1818.5	1818.5	84.5
								View angle, deg =	4.8	0.9	7.7	18.4	2.2	0.8	0.6	0.5	0.4	2.9	
H5_13	Segment 13	823019.1	839510.0	823033.5	839529.3	823026.3	839519.7	Distance, m	160.8	53.5	174.7	64.8	174.2	979.8	1147.6	1448.9	1839.9	1839.9	63.0
								View angle, deg =	7.7	9.0	7.8	20.5	4.1	0.4	0.3	0.2	0.2	13.5	
H5_14	Segment 14	823033.5	839529.3	823052.1	839544.9	823042.8	839537.1	Distance, m	149.2	30.5	177.2	66.2	196.4	1002.0	1170.4	1471.8	1862.4	1862.4	44.0
								View angle, deg =	8.0	14.8	7.5	19.6	1.8	0.7	0.5	0.4	0.3	21.0	
H5_15	Segment 15	823052.1	839544.9	823061.4	839565.4	823056.8	839555.2	Distance, m	143.4	15.1	180.3	73.1	216.9	1023.8	1192.6	1494.2	1884.4	1884.4	35.0
								View angle, deg =	9.0	73.3	7.1	17.1	3.6	0.1	0.0	0.0	0.0	35.4	
H5_16	Segment 16	822668.6	839189.2	822694.5	839225.5	822681.6	839207.3	Distance, m	576.4	518.2	478.3	472.7	307.0	606.8	743.3	1030.5	1433.4	1433.4	522.5
								View angle, deg =	1.9	1.1	0.8	0.4	0.2	2.5	1.5	0.8	0.6	1.3	

PME = *Dump truck, gross vehicle weight ≤ 38 tonne SWL, dB(A) = 105 No. of PME/hr = 1 Speed, km/h = 20
 Note [*] - Reference made to EPD website: Sound power levels of other commonly used PME

Segment	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	SPL	
H5_1	16.5	18.4	19.9	19.7	23.9	17.2	15.4	12.6	9.8	18.2	
H5_2	9.3	8.4	16.1	13.7	19.6	14.3	11.7	8.3	5.9	5.7	
H5_3	18.3	18.1	11.2	17.3	20.3	7.8	-0.5	2.8	-2.7	18.3	
H5_4	18.7	18.5	-3.2	17.6	21.0	9.6	3.3	-9.9	-4.1	18.8	
H5_5	18.4	17.4	17.5	13.5	17.0	12.2	9.2	5.5	3.8	18.0	
H5_6	17.6	13.3	21.8	17.2	29.4	13.4	11.1	8.2	6.1	15.3	
H5_7	16.8	10.1	22.2	18.9	33.7	11.8	9.6	6.9	4.9	13.7	
H5_8	19.3	11.9	25.1	22.7	40.4	12.9	10.7	8.1	6.1	16.4	
H5_9	21.0	14.5	26.7	25.8	38.7	12.4	10.3	7.7	5.9	18.9	
H5_10	22.8	16.3	28.0	29.7	32.1	12.0	9.9	7.5	5.7	21.5	
H5_11	23.7	23.6	28.5	34.3	24.6	12.2	10.4	8.1	6.3	18.0	
H5_12	23.8	20.3	25.9	33.6	21.1	8.8	6.9	4.7	3.0	24.8	
H5_13	26.2	31.7	26.0	34.4	23.1	5.5	2.9	0.2	-0.6	32.7	
H5_14	26.7	36.3	25.7	34.1	19.1	7.7	5.8	3.5	2.1	36.2	
H5_15	27.4	46.3	25.4	33.1	21.7	-2.1	-10.1	-7.0	-10.6	39.5	
H5_16	14.6	12.8	11.9	8.9	7.1	15.6	12.4	8.3	5.9	13.4	
Haul Road No. H5	Overall SPL	34.3	46.9	36.2	41.5	43.9	24.3	21.9	19.0	16.9	42.0
Haul Road Overall	Overall SPL	40.9	51.0	53.5	53.1	53.5	34.5	34.2	34.1	31.9	47.7

Predicted Construction Noise Level at NSR ID = NSR 1

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1780				46	46	46							
2	A2	Superstructure Works	117	1780								47	47	47			
3	A3	Roof, Cladding and Interior Works upto Handover	106	1780									36	36	36		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	553				56	56	56							
2	B2	Superstructure Works	117	553								57	57	57			
2	B3	Roof, Cladding and Interior Works upto Handover	106	553									47	47	47		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	351				45	45	45			45	45	45	45	45
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						41	41	41			41	41	41	41	41
Overall Noise Level from the Project, dB(A) =								57	57	57			58	58	58	50	50

Predicted Construction Noise Level at NSR ID = NSR 2

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1727				46	46	46							
2	A2	Superstructure Works	117	1727								47	47	47			
3	A3	Roof, Cladding and Interior Works upto Handover	106	1727									37	37	37		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	468				57	57	57							
2	B2	Superstructure Works	117	468								58	58	58			
3	B3	Roof, Cladding and Interior Works upto Handover	106	468									48	48	48		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	260				48	48	48			48	48	48	48	48
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						51	51	51			51	51	51	51	51
Overall Noise Level from the Project, dB(A) =								59	59	59			60	60	60	54	54

Predicted Construction Noise Level at NSR ID = NSR 3

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1655				46	46	46							
2	A2	Superstructure Works	117	1655								47	47	47			
3	A3	Roof, Cladding and Interior Works upto Handover	106	1655									37	37	37		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	378				59	59	59							
2	B2	Superstructure Works	117	378								60	60	60			
3	B3	Roof, Cladding and Interior Works upto Handover	106	378									50	50	50		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	210				50	50	50			50	50	50	50	50
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						54	54	54			54	54	54	54	54
Overall Noise Level from the Project, dB(A) =								61	61	61			61	61	61	56	56

Predicted Construction Noise Level at NSR ID = NSR 4

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1675				46	46	46							
2	A2	Superstructure Works	117	1675								47	47	47			
3	A3	Roof, Cladding and Interior Works upto Handover	106	1675									37	37	37		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	403				59	59	59							
2	B2	Superstructure Works	117	403								60	60	60			
3	B3	Roof, Cladding and Interior Works upto Handover	106	403									49	49	49		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	201				50	50	50			50	50	50	50	50
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						53	53	53			53	53	53	53	53
Overall Noise Level from the Project, dB(A) =								60	60	60			61	61	61	56	56

Predicted Construction Noise Level at NSR ID = NSR 5

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1508				47	47	47							
2	A2	Superstructure Works	117	1508							48	48	48				
3	A3	Roof, Cladding and Interior Works upto Handover	106	1508									38	38	38		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	241				63	63	63							
2	B2	Superstructure Works	117	241							64	64	64				
3	B3	Roof, Cladding and Interior Works upto Handover	106	241									54	54	54		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	34				65	65	65			65	65	65	65	65
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						53	53	53			53	53	53	53	53
Overall Noise Level from the Project, dB(A) =								68	68	68			68	68	66	66	66

Predicted Construction Noise Level at NSR ID = NSR 6

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	958				51	51	51							
2	A2	Superstructure Works	117	958							52	52	52				
3	A3	Roof, Cladding and Interior Works upto Handover	106	958									42	42	42		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	741				53	53	53							
2	B2	Superstructure Works	117	741							54	54	54				
3	B3	Roof, Cladding and Interior Works upto Handover	106	741									44	44	44		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	328				46	46	46			46	46	46	46	46
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						34	34	34			34	34	34	34	34
Overall Noise Level from the Project, dB(A) =								56	56	56			57	57	49	49	49

Predicted Construction Noise Level at NSR ID = NSR 7

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	807				53	53	53							
2	A2	Superstructure Works	117	807							53	53	53				
3	A3	Roof, Cladding and Interior Works upto Handover	106	807									43	43	43		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	870				52	52	52							
2	B2	Superstructure Works	117	870							53	53	53				
3	B3	Roof, Cladding and Interior Works upto Handover	106	870									43	43	43		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	278				47	47	47			47	47	47	47	47
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						34	34	34			34	34	34	34	34
Overall Noise Level from the Project, dB(A) =								56	56	56			57	57	57	50	50

Predicted Construction Noise Level at NSR ID = NSR 8

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	679				54	54	54							
2	A2	Superstructure Works	117	679							55	55	55				
3	A3	Roof, Cladding and Interior Works upto Handover	106	679									45	45	45		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	1149				50	50	50							
2	B2	Superstructure Works	117	1149							50	50	50				
3	B3	Roof, Cladding and Interior Works upto Handover	106	1149									40	40	40		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	456				43	43	43			43	43	43	43	43
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						34	34	34			34	34	34	34	34
Overall Noise Level from the Project, dB(A) =								56	56	56			56	56	56	48	48

Predicted Construction Noise Level at NSR ID = NSR 9

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	851				52	52	52							
2	A2	Superstructure Works	117	851								53	53	53			
3	A3	Roof, Cladding and Interior Works upto Handover	106	851									43	43	43		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	1554				47	47	47							
2	B2	Superstructure Works	117	1554								48	48	48			
3	B3	Roof, Cladding and Interior Works upto Handover	106	1554									38	38	38		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	856				37	37	37			37	37	37	37	37
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						32	32	32			32	32	32	32	32
Overall Noise Level from the Project, dB(A) =								53	53	53			54	54	54	45	45

Predicted Construction Noise Level at NSR ID = NSR 10

ID	Work Activity ID	Construction Work Activities	SWL, dB(A)	Distance,m	2022												
					1	2	3	4	5	6	7	8	9	10	11	12	
New TH2 (including Boardwalk Access)																	
1	A1	Foundation Works	116	1731				46	46	46							
2	A2	Superstructure Works	117	1731								47	47	47			
3	A3	Roof, Cladding and Interior Works upto Handover	106	1731									37	37	37		
New TH3 (including Boardwalk Access)																	
1	B1	Foundation Works	116	477				57	57	57							
2	B2	Superstructure Works	117	477								58	58	58			
3	B3	Roof, Cladding and Interior Works upto Handover	106	477									48	48	48		
New Boardwalk (including EAs)																	
1	C1	Construction Works	101	270				47	47	47			47	47	47	47	47
Vehicular Movement (Site-wide)																	
1	E1	Dump Truck Transportation						48	48	48			48	48	48	48	48
Overall Noise Level from the Project, dB(A) =								58	58	58			59	59	59	53	53