Alternative Ground Decontamination Works at the Proposed Kennedy Town Comprehensive Development Area Site Environmental Impact Assessment Report



Appendix 3.7

Details of Dust Emission Sources for 1-hour, Daily and Annual Dust Assessment (Tier 1)

Appendix 3.7 - Details of Dust Emission Sources for 1-hour TSP Assessment (Tier 1) for all zone under excavation

Works Area	Sources		Parameter	Remarks
KTCDA	Heavy construction	Percentage active area, p	100 %	Assume 100% works area for heavy construction
	Source ID: A-1 to A-	Mitigation efficiency	91.7 %	Water suppression 4 times a day
	9, B-1 to B-9, C-1 to	No. of working days per month, d	26 days	
	C-5	No. of working hours per day, h	10 hour	From 8:00 to 18:00
		Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	2.87393E-04 g/m²/s (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			2.38536E-05 g/m²/s (mitigated)	
	Wind Erosion for	Percentage active area, p	100 %	
	Working Hours	Mitigation efficiency	91.7 %	Water suppression 4 times a day
	Source ID: A-1 to A-	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
	9, B-1 to B-9, C-1 to	Emission Rate	2.69533E-06 g/m²/s (unmitigated)	=0.85*1000000/(10000*365*24*60*60)*p/100
	C-5		2.23713E-07 g/m²/s (mitigated)	
	Wind Erosion for Non-	Percentage active area, p	100 %	
	Working Hours	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
	Source ID: A-1 to A-	Emission Rate	2.69533E-06 g/m²/s (unmitigated)	=0.85*1000000/(10000*365*24*60*60)*p/100
	9, B-1 to B-9, C-1 to			
	C-5			

Appendix 3.7 - Details of Dust Emission Sources for 1-hour TSP Assessment (Tier 1) for Concurrent Projects

Works Area	Sources	Parameter		Remarks
Concurrent Projects	Heavy construction	Percentage active area, p	100 %	Assume 100% works area for heavy construction
	Source ID: CP-1 to	Mitigation efficiency	91.7 %	Water suppression 4 times a day
	CP-11 and CP-14 to	No. of working days per month, d	26 days	
	CP-32	No. of working hours per day, h	10 hour	From 8:00 to 18:00
		Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	2.87393E-04 g/m ² /s (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			2.38536E-05 g/m ² /s (mitigated)	
	Wind Erosion for	Dercentage active area a	100 %	
		Percentage active area, p Mitigation efficiency	91.7 %	Water suppression 4 times a day
	. 5	Emission Factor	0.85 Mg/hectare/year	AP42. Table 11.9-4
		Emission Pactor	2.69533E-06 g/m²/s (unmitigated)	=0.85*1000000/(10000*365*24*60*60)*p/100
	CP-32	Littission Rate	2.23713E-07 g/m²/s (mitigated)	=0.83 1000000/(10000 303 24 00 00) p/100
	0. 02		2.207 102 07 g/m/5 (magaaba)	
	Wind Erosion for Non-	Percentage active area, p	100 %	
	Working Hours	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
	Source ID: CP-1 to	Emission Rate	2.69533E-06 g/m²/s (unmitigated)	=0.85*1000000/(10000*365*24*60*60)*p/100
	CP-11 and CP-14 to			

Appendix 3.7 - Details of Dust Emission Sources for 1-hour RSP Assessment (Tier 1) for all zone under excavation

Works Area	Sources	Parameter		Remarks
KTCDA	Heavy construction Source ID: A-1 to A-9, B-1 to B-9, C-1 to C-5	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate for RSP	100 % 91.7 % 26 days	Assume 100% works area for heavy construction Water suppression 4 times a day From 8:00 to 18:00 AP42, Section 13.2.3.3 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Working Hours Source ID: A-1 to A-9, B-1 to B-9, C-1 to C-5	Percentage active area, p Mitigation efficiency Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate for RSP	100 % 91.7 % 0.85 Mg/hectare/year 30 % of TSP 0.26 Mg/hectare/year 8.086E-07 g/m²/s (unmitigated) 6.71138E-08 g/m²/s (mitigated)	Water suppression 4 times a day AP42, Table 11.9-4 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Working Hours Source ID: A-1 to A-9, B-1 to B-9, C-1 to C-5	Percentage active area, p Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate	100 % 0.85 Mg/hectare/year 30 % of TSP 0.26 Mg/hectare/year 8.086E-07 g/m²/s (unmitigated)	AP42, Table 11.9-4 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Appendix 3.7 - Details of Dust Emission Sources for 1-hour RSP Assessment (Tier 1) for Concurrent Projects

Works Area	Sources	Parameter		Remarks
Concurrent Projects	Heavy construction Source ID: CP-1 to CP-11 and CP-14 to CP-32	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate	100 % 91.7 % 26 days 10 hour 2.69 Mg/hectare/month of activity 30 % of TSP 0.81 Mg/hectare/month of activity 8.62179E-05 g/m²/s (unmitigated)	Assume 100% works area for heavy construction Water suppression 4 times a day From 8:00 to 18:00 AP42, Section 13.2.3.3 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Working Hours Source ID: CP-1 to CP-11 and CP-14 to CP-32	Percentage active area, p Mitigation efficiency Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate	7.15609E-06 g/m²/s (mitigated) 100 % 91.7 % 0.85 Mg/hectare/year 30 % of TSP 0.26 Mg/hectare/year 8.086E-07 g/m²/s (unmitigated) 6.71138E-08 g/m²/s (mitigated)	Water suppression 4 times a day AP42, Table 11.9-4 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Working Hours Source ID: CP-1 to CP-11 and CP-14 to	Percentage active area, p Emission Factor for TSP % content of RSP Emission Factor for RSP Emission Rate	100 % 0.85 Mg/hectare/year 30 % of TSP 0.26 Mg/hectare/year 8.086E-07 g/m²/s (unmitigated)	AP42, Table 11.9-4 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Appendix 3.7 - Details of Dust Emission Sources for 1-hour FSP Assessment (Tier 1) for all zone under excavation

Works Area	Sources	Parameter		Remarks
KTCDA		Percentage active area, p	100 %	Assume 100% works area for heavy construction
	Source ID: A-1 to A-9,		91.7 %	Water suppression 4 times a day
		No. of working days per month, d	26 days	
		No. of working hours per day, h		From 8:00 to 18:00
		Emission Factor for TSP	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		% content of FSP	3 % of TSP	
		Emission Factor for FSP	0.08 Mg/hectare/month of activity	
		Emission Rate for FSP	8.62179E-06 g/m ² /s (unmitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			7.15609E-07 g/m²/s (mitigated)	
			100.07	
		Percentage active area, p	100 %	Water and the Affect of the
		Mitigation efficiency	91.7 %	Water suppression 4 times a day
		Emission Factor for TSP	0.85 Mg/hectare/year 3 % of TSP	AP42, Table 11.9-4
	B-1 to B-9, C-1 to C-5	Emission Factor for FSP	0.03 Mg/hectare/year	
		Emission Rate for FSP	o ,	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
		Emission Rate for FSF	8.086E-08 g/m²/s (unmitigated) 6.71138E-09 g/m²/s (mitigated)	=0.65 0.03 1000000/(10000 365 24 60 60) p/100
			0.7 1136E-09 g/III-/s (Illiligated)	
	Wind Frosion for Non-	Percentage active area, p	100 %	
		Emission Factor for TSP	0.85 Mg/hectare/year	AP42, Table 11.9-4
	Source ID: A-1 to A-9,		3 % of TSP	,
		Emission Factor for FSP	0.03 Mg/hectare/year	
		Emission Rate	8.086E-08 g/m ² /s (unmitigated)	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			- : 5	. ,,

Appendix 3.7 - Details of Dust Emission Sources for 1-hour FSP Assessment (Tier 1) for Concurrent Projects

Works Area	Sources	Parameter		Remarks
Concurrent Projects	Heavy construction Source ID: CP-1 to CP-11 and CP-14 to CP-32	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor for TSP % content of FSP Emission Factor for FSP Emission Rate	100 % 91.7 % 26 days 10 hour 2.69 Mg/hectare/month of activity 3 % of TSP 0.08 Mg/hectare/month of activity 8.62179E-06 g/m²/s (unmitigated) 7.15609E-07 g/m²/s (mitigated)	Assume 100% works area for heavy construction Water suppression 4 times a day From 8:00 to 18:00 AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion for Working Hours Source ID: CP-1 to CP-11 and CP-14 to CP-32	Percentage active area, p Mitigation efficiency Emission Factor for TSP % content of FSP Emission Factor for FSP Emission Rate	100 % 91.7 % 0.85 Mg/hectare/year 3 % of TSP 0.03 Mg/hectare/year 8.086E-08 g/m²/s (unmitigated) 6.71138E-09 g/m²/s (mitigated)	Water suppression 4 times a day AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
	Wind Erosion for Non- Working Hours Source ID: CP-1 to CP-11 and CP-14 to CP-32	Percentage active area, p Emission Factor for TSP % content of FSP Emission Factor for FSP Emission Rate	100 % 0.85 Mg/hectare/year 3 % of TSP 0.03 Mg/hectare/year 8.086E-08 g/m²/s (unmitigated)	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100