### Appendix 5.2.15 - Details of Dust Emission Sources for Annual FSP Assessment at Year 2015 Third Runway Work Areas Works Area Sources Submarine pipeline Percentage active area, p Assume % works area for heavy construction Mitigation efficiency 91.7 % Water suppression 12 times a day Submarine cable No. of working days per month, d 30 days Q3: S1, S2, S3 No. of working hours per day, h 24 hour AP42, Section 13.2.3.3 Emission Factor (0.03) 0.0807 Mg/hectare/month of activity Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Q4: S1, S2, S3 4.67014E-07 g/m<sup>2</sup>/s (unmitigated) =2.69\*0.03\*1000000/(10000\*d\*h\*60\*60)\*p/100 3.87622E-08 g/m<sup>2</sup>/s (mitigated) Wind Erosion Source ID: (as above) 15 % Percentage active area, p Thompson G. Pace, USEPA. Examination of the Multiplier Used to Emission Factor (0.03) 0.0255 Mg/hectare/year Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Emission Rate 1.2129E-08 g/m<sup>2</sup>/s =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100 ercentage active area, p 16.9 % Concurrent project) Assume % works area for heavy construction Water suppression 12 times a day NCD works Equation (3-2) in the USEPA's Control of Open Fugitive Dust 91.7 % Sources Final Report No. of working days per month, d Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, TRD2, TCPN-1, TCPN-2, TCPN-3, EGC4, EGC5, EGC6, EGC7 No. of working hours per day, h 24 hour Q4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to 0.0807 Mg/hectare/month of activity GC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7 Emission Factor (0.03) Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 **Emission Rate** 5.25715E-07 g/m²/s (unmitigated) =2.69\*0.03\*1000000/(10000\*d\*h\*60\*60)\*p/100 4.36344E-08 g/m²/s (mitigated) Wind Erosion Source ID: (as above) ercentage active area, p AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Emission Factor (0.03) 0.0255 Mg/hectare/year Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 1.36536E-08 g/m<sup>2</sup>/s =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100 **Emission Rate** (Concurrent project) ercentage active area, p 34.3 % Assume % works area for heavy construction Water suppression 12 times a day ITT works (area Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report : SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, Mitigation efficiency 91.7 % ources) Q2: SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, ITT1 No. of working days per month, d 30 days Q3: SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, 24 hour No. of working hours per day, h AP42. Section 13.2.3.3 0.0807 Mg/hectare/month of activity Thompson G. Pace, USEPA. Examination of the Multiplier Used to Emission Factor (0.03) Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 1.0673E-06 g/m²/s (unmitigated) =2.69\*0.03\*1000000/(10000\*d\*h\*60\*60)\*p/100 Emission Rate 8.85857E-08 g/m<sup>2</sup>/s (mitigated) Wind Erosion Source ID: (as above) Percentage active area, p 34.3 % Thompson G. Pace, USEPA. Examination of the Multiplier Used to 0.0255 Mg/hectare/year Emission Factor (0.03) Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 **Emission Rate** 2.77192E-08 g/m<sup>2</sup>/s =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100 Assume % works area for heavy construction Water suppression 12 times a day ITT works (line Q1: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8, SCRE9, SCRE10, AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report Mitigation efficiency 91.7 % sources) Roadworks AES10, AES11, AES12 Q2: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8 rade SCRE9, SCRE10, AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, No. of working days per month, d 30 days AES10, AES11, AES12 Og: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8, SCRE9, SCRE10, AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11, AES12 No. of working hours per day, h 24 hour Thompson G. Pace, USEPA, Examination of the Multiplier Used to Emission Factor (0.03) 0.0807 Mg/hectare/month of activity Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Assume road width equals 12m, therefore multiply emission rate Emission Rate 1.28076E-05 g/m²/s (unmitigated) =2.69\*0.3\*1000000/(10000\*d\*h\*60\*60)\*p/100 \* 12 1.06303E-06 g/m<sup>2</sup>/s (mitigated) Vind Erosion Source ID: (as above) ercentage active area, p AP42, Table 11.9-4 Emission Factor (0.03) 0.0255 Mg/hectare/year Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100 2.77192E-08 g/m<sup>2</sup>/s **Emission Rate** (Concurrent project) Percentage active area, p 10.0 % Extracted from HKBCF EIA, assume 10% works area for heavy Heavy construction Source ID: construction Soundary Crossing Q1: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4 Q2: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4 Mitigation efficiency 87.5 % Extracted from HKBCF EIA acilities (BCF) No. of working days per month, d Extracted from HKBCF EIA 26 days Q3: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4 No. of working hours per day, h Extracted from HKBCF EIA Q4: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4 AP42, Section 13.2.3.3 Emission Factor (0.03) 0.0807 Mg/hectare/month of activity Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69\*0.03\*1000000/(10000\*d\*h\*60\*60)\*p/100 7.18483E-07 g/m²/s (unmitigated) Emission Rate 8.98104E-08 g/m<sup>2</sup>/s (mitigated) Wind Erosion 10 % Percentage active area, p Source ID: (as above) AP42, Table 11.9-4 Emission Factor (0.03) 0.0255 Mg/hectare/year Thompson G. Pace, USEPA, Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 **Emission Rate** $8.086E-09\ g/m^2/s$ =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100 10.0 % Extracted from HKLR EIA, assume 10% works area for heavy ercentage active area, p Concurrent project) Q1: LR-2, LR-3, LR-4, LR-5, LR-6, LR-7, LR-8, LR-9, LR-10, LR-11, LR-12, LR-13, LR-14 Hona Kona Link Mitigation efficiency 87.5 % Extracted from HKLR EIA Road (HKLR) Extracted from HKLR EIA Extracted from HKLR EIA No. of working days per month, d No. of working hours per day, h 26 days AP42. Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Emission Factor (0.03) 0.0807 Mg/hectare/month of activity Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 7.18483E-07 g/m²/s (unmitigated) 8.98104E-08 g/m²/s (mitigated) =2.69\*0.03\*1000000/(10000\*d\*h\*60\*60)\*p/100 **Emission Rate** find Erosion ource ID: (as above) Percentage active area, p AP42, Table 11.9-4 0.0255 Mg/hectare/year Thompson G. Pace, USEPA. Examination of the Multiplier Used to Emission Factor (0.03) Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Emission Rate 8.086E-09 g/m<sup>2</sup>/s =0.85\*0.03\*1000000/(10000\*365\*24\*60\*60)\*p/100

Third Runway Work	Third Runway Work Areas					
Works Area	Sources		Parameter	Remarks		
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.1 %	Assume % works area for heavy construction		
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2:	No. of working days per month, d	30 days	·		
	Q3:	No. of working hours per day, h	24 hour			
	Q4: 1_03-1, 1_03-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	2.8559E-09 g/m²/s (unmitigated) 2.3704E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	7.41717E-11 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
Submarine pipeline	Heavy construction	Percentage active area, p	22.5 %			
	Source ID: Q1: S1, S2, S3	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day		
Submarine cable	Q2: S1, S2, S3	No. of working days per month, d	30 days	Water suppression 12 times a day		
	Q3: S1, S2, S3	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3		
	Q4:	Emission Factor (0.03) Emission Rate	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100		
		Emission rate	7.00521E-07 g/m²/s (unmitigated) 5.81432E-08 g/m²/s (mitigated)	=2.69 0.03 1000000/(10000 d fi 60 60) p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	22.5 %			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	1.81935E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	16.0 %	Assume % works area for heavy construction		
NCD works	O1: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	No. of working days per month, d	30 days			
	Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	No. of working hours per day, h	24 hour			
	Q4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	4.9862E-07 g/m²/s (unmitigated) 4.13854E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	16.0 %			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	1.29498E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	35.9 %	Assume % works area for heavy construction Water suppression 12 times a day		
ITT works (area sources)	Q1: AES6, EM1, EM2, ITT1	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2: AES6, EM1, EM2, ITT1 Q3: AES6, EM1, EM2, ITT1 Q4: AES6, EM1, EM2, ITT1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour			
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	1.11861E-06 g/m²/s (unmitigated) 9.28444E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	35.9 %			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	2.90518E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
L	I	<u> </u>	<u> </u>	1		

Appendix 5.2.15 - D	etails of Dust Emission Sources for Annual FSP Assessme	ent at Year 2016		
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	35.93 %	Assume % works area for heavy construction
TT works (line		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
ources) Roadworks - at	AES12	iviligation eniciency	91.7 %	Sources Final Report
rade	Q2: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11, AES12 Q3: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11,	No. of working days per month, d	30 days	
	GS: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11, AES12 Q4: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11,	No. of working hours per day, h	24 hour	
	AES12	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.34233E-05 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission ra by 12m.
			1.11413E-06 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion	Percentage active area, p	35.93 %	
	Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	2.90518E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Γ2 Expansion - Advanced Works	Heavy construction Source ID:	Percentage active area, p	1.0 %	Assume % works area for heavy construction
Temporary Car Parks NCD and		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Temporary Road Diversion)	Q1: TRD1, TRD3, TRD4, TRD5, TRD6 Q2: TRD1, TRD5, TRD6	No. of working days per month, d	30 days	Sources Final Report
	Q3: TRD1, TRD5, TRD6 Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.22126E-08 g/m²/s (unmitigated) 2.67364E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	8.36605E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction	Percentage active area, p	10.0 %	Extracted from HKBCF EIA, assume 10% works area for heav,
	Source ID: Q1: BCF-C4		87.5 %	construction  Extracted from HKBCF EIA
Boundary Crossing Facilities (BCF)	Q2: BCF-C4	Mitigation efficiency No. of working days per month, d	26 days	Extracted from HKBCF EIA
	Q3: BCF-C4 Q4: BCF-C4	No. of working hours per day, h  Emission Factor (0.03)	12 hour 0.0807 Mg/hectare/month of activity	Extracted from HKBCF EIA AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	7.18483E-07 g/m²/s (unmitigated) 8.98104E-08 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	10 %	
	Source ID: (as above)	. o.oomage donvo droa, p	10 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	8.086E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			50.00	
Other airport acilities related vorks	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction Water suppression 12 times a day
VOIRS	Q1: ABT1-1	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: ABT1-1 Q3: ABT1-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Source Children Coperit
	Q4: ABT1-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	1.6071E-07 g/m²/s (unmitigated) 1.3339E-08 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	5.2 %	
	Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	4.17387E-09 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks	Heavy construction	Percentage active area, p	5.2 %	Accumo 9/ works area for hoosy construction
corresponding to Other airport	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
acilities related works	Q1: ABT1-2, ABT1-3 Q2: ABT1-2, ABT1-3	No. of working days per month, d	30 days	Sources Final Report
	Q3: ABT1-2, ABT1-3 Q4: ABT1-2, ABT1-3	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.92852E-06 g/m²/s (unmitigated) 1.60068E-07 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	
	ĺ	1		AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200

Works A	Ca	Ī	Parameter	Pamauka
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 1.4 %	Remarks
Formation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	Q1: 1_01, 1_03-1, 1_03-2, 1_04, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 1_09-1, 1_09-2, 2_03B, 2_04-1, 2_04-2, 2_05B-1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07B, 2_08, 2_09-1, 2_09-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	(Q2: 1, 01, 1, 02-1, 1, 02-2, 1, 03-1, 1, 03-2, 1, 04, 1, 1, 07-1, 1, 07-2, 1, 08A-1, 1, 08A-2, 1, 08B-1, 1, 08B-2, 1, 09B-1, 1, 08B-2, 1, 09B-1, 02B-2, 2, 03B, 2, 05B-1, 2, 05B-2, 2, 07A-1, 2, 07A-2, 2, 07B, 2, 08, 2, 09-1, 2, 09-2, 3, 01A-1, 3, 01A-2, 3, 01A-3, 01A-2, 01A-	No. of working days per month, d	30 days	
	Q3: 1.01, 1.02-1, 1.02-2, 1.03-1, 1.03-2, 1.04, 1.05, 1.07-1, 1.07-2, 1.08-1, 1.08-2, 1.08B-1, 1.08B-2, 2.03B, 2.05B-1, 2.05B-2, 2.07A-1, 2.07A-2, 2.07B, 2.08, 3.01A-1, 3.01A-2, 3.01A-3	No. of working hours per day, h	24 hour	
	Q4: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.45002E-08 g/m²/s (unmitigated) 3.69352E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
 	For night-time activities:	Percentage active area, p	1.4 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3	No. of working days per month, d	30 days	
	Q3: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2	No. of working hours per day, h	12 (night) hour	
	Q4: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_02A-1, 3_02A-2, 3_02A-3	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.90004E-08 g/m²/s (unmitigated) 7.38703E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.15573E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Wind Erosion (only)	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	01:	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Heavy construction Source ID:	Percentage active area, p	0.0 %	Assume % works area for heavy construction
Construction Works/Facilities on newly formed land		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q1: 4_04, 4_05-1 Q2: 4_04, 4_05-1 Q3: 4_04, 4_05-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final neport
	Q4: 4_04, 4_05-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.58968E-10 g/m²/s (unmitigated) 7.12944E-11 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.0 %	
	50000 12. (40 40010)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.23086E-11 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	3.1 %	Assume % works area for heavy construction
NCD works	Source ID:  Q1: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC2, EGC5, EGC	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7 Q2: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	No. of working days per month, d	30 days	Joseph Time Hoport
	Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	No. of working hours per day, h	24 hour	
	O4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	9.65381E-08 g/m²/s (unmitigated) 8.01266E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.1 %	AD40 Table 44.0.4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	ĺ	Emission Rate	2.50723E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.15 - De	etails of Dust Emission Sources for Annual FSP Assessme	ent at Year 2017		
(Concurrent project)	Heavy construction	Percentage active area, p	7.2 %	Account of weeks are for books construction
	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
ŕ	Q1: AES6 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
,	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.2403E-07 g/m²/s (unmitigated) 1.85945E-08 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.81837E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	Heavy construction	Percentage active area, p	7.20 %	Assume % works area for heavy construction
ITT works (line sources)	Source ID: Q1: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
grade	AES12 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.68836E-06 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			2.23134E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.20 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.81837E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at grade	Heavy construction Source ID:	Percentage active area, p	30.48 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
I	Q2: CA1, CA2 Q3: CA1, CA2 Q4: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.13869E-05 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			9.45115E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	30.48 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.46445E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	30.5 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: CA3, CA4, CA5, CA6, CA7, CA8 Q3: CA3, CA4, CA5, CA6, CA7, CA8 Q4: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	3. 2. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.18614E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			9.84495E-08 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	30.5 %	IBVO T. I. ALOA
		Percentage active area, p Emission Factor (0.03)	30.5 % 0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005

Appendix 5.2.15 - D	etails of Dust Emission Sources for Annual FSP Assessm	ent at Year 2017		
Roadworks Road 6 -	Heavy construction	Percentage active area, p	20.7 %	Assume % works area for heavy construction
viaduct (Concept F, Option 3)	Source ID: O1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	02: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working days per month, d	30 days	Coulock I man report
	NT30,	No. of working hours per day, h	24 hour	
	O4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.04473E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)  '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			6.67713E-08 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	20.7 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.67146E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Interchange Station	Heavy construction Source ID:	Percentage active area, p	0.7 %	Assume % works area for heavy construction
(AIS)	O1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: AIS1, AIS2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Codices I mai Topper
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.24013E-08 g/m²/s (unmitigated) 1.8593E-09 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.72 %	
	Q1:	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.81792E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
tunnel	Source ID.	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: BAT1, BAT2, NAB3, NAB4 Q4: BAT1, BAT2, NAB3, NAB4	No. of working hours per day, h  Emission Factor (0.03)	24 hour  0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.42931E-09 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	4.50633E-10 g/m²/s (mitigated)	
	Source ID: (as above) Q1:			AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.41007E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.0 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: T2E-1, T2E-2, T2E-3, BHS1, BHS2, NAB1, NAB2, SAB, NAD1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	·
	Q4: T2E-1, T2E-2, T2E-3, AIS1, AIS2, BHS1, BHS2, NAB1, NAB2, SAB, NAD1, EVA1, EVA2, EVA3, EVA4, EVA5, EVA6, EVA7, EVA8, EVA9	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.44149E-09 g/m²/s (unmitigated) 1.19644E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.74376E-11 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion - Emergency	Heavy construction Source ID:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
Vehicular Access (EVA)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: EVA1, EVA2, EVA3, EVA4, EVA5, EVA6, EVA7, EVA8, EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.20924E-08 g/m²/s (unmitigated) 5.15367E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	
	, ,	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.61263E-09 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
				. , , , , , , , , , , , , , , , , , , ,

Other airport	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
facilities related works	Q1: ABT1-1 Q2: ABT1-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: ABT1-1 Q4: ABT1-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: AB11-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.36713E-08 g/m²/s (unmitigated) 3.62472E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.1342E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
corresponding to Other airport facilities related works	Q1: ABT1-2, ABT1-3	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
works	Q2: ABT1-2, ABT1-3 Q3: ABT1-2, ABT1-3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: ABT1-2, ABT1-3	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.24056E-07 g/m²/s (unmitigated) 4.34966E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.1342E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Third Runway Work	Areas			
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 6.8 %	Remarks
Formation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	O1: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_08B-2, 2_02B-1, 2_02B-2, 2_03A, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 1_02-1, 1_02-2, 1_05, 1_06-1, 1_06-2, 2_02B-1, 2_02B-2, 2_03A, 2_05A, 2_08, 3_02B	No. of working days per month, d	30 days	· ·
	O3: 1_06-1, 1_06-2, 2_01, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2	No. of working hours per day, h	24 hour	
	Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05B-1, 2_05B-2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.10499E-07 g/m²/s (unmitigated) 1.74714E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	6.8 %	
	Q1: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_02A-1, 3_02A-2, 3_02A-3	Mitigation efficiency	91.7 %	
	Q2: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_01A-1, 3_01A-2, 3_01A-3, 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	Q3: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_01A-1, 3_01A-2, 3_01A-3, 3_02A-1, 3_02A-2, 3_02A-3  Q4: 1_09-1, 1_09-2, 2_09-1, 2_09-2, 3_02A-1, 3_02A-2, 3_02A-3	No. of working hours per day, h	12 (night) hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.20998E-07 g/m²/s (unmitigated) 3.49428E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	6.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.46694E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Wind Erosion (only)	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 1_07-2, 1_08A-2, 2_03B, 2_07B, 2_08, 3_01A-1, 3_01A-2, 3_01A-3	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
	Q2: 1_01, 1_03-1, 1_03-2, 1_04, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B Q3: 1_09-1, 1_09-2, 2_08, 3_02B	Emission Rate	1.6172E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Q4: 2_04-1, 2_04-2, 2_05A, 2_06-1, 2_06-2, 2_06-3, 2_08, 3_02B Heavy construction	Percentage active area, p	2.4 %	Assume 0/ works are for beauty construction
Construction Works/Facilities on newly formed land	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	O1: 1_07-1, 1_08A-1, 1_08B-1, 4_04, 4_05-1 Q2: 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 4_04, 4_05-1	No. of working days per month, d	30 days	Sources Final Report
	O3: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_07A-1, 2_07A-2, 2_07B, 4_04, 4_05-1	No. of working hours per day, h	24 hour	
	04: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_04, 4_05-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	7.43415E-08 g/m²/s (unmitigated) 6.17034E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.93075E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	26.3 %	Assume % works area for heavy construction
NCD works	Q1: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	7, EGG2- Q2: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3- 1, EGC3-2	No. of working days per month, d	30 days	
	Q3: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2	No. of working hours per day, h	24 hour	
	Q4: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.18814E-07 g/m²/s (unmitigated) 6.79615E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	26.3 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.12657E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
				1

development (MD)  O1: MI O2: MI O3: MI O4: MI  Wind E Source	MD MD MD MD	Percentage active area, p  Mitigation efficiency  No. of working days per month, d	0.7 % 91.7 %	Assume % works area for heavy construction Water suppression 12 times a day
Q2: MI Q3: MI Q4: MI Wind E Source  South Cargo Heavy	MD MD MD MD	,	91.7 %	
Q3: MI Q4: MI Wind E Source  South Cargo Heavy	MD MD	No. of working days per month, d		Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Wind E Source South Cargo Heavy		No. of working hours per day, h	30 days 24 hour	
Source South Cargo Heavy		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
Source South Cargo Heavy		Emission Rate	2.1273E-08 g/m²/s (unmitigated) 1.76566E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
South Cargo Heavy	d Erosion rce ID: (as above)	Percentage active area, p	0.7 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.52489E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks - at Source	vy construction ce ID:	Percentage active area, p	43.24 %	Assume % works area for heavy construction
grade		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Q2: CA Q3: CA	CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
Q4: C <i>i</i>	CA1, CA2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.61535E-05 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*100000/(10000*d*h*60*60)*p/100 * 12
			1.34074E-06 g/m²/s (mitigated)	=2.09 0.3 1000000/(10000 d 11 60 60) p/100 12
	d Erosion rce ID: (as above)	Percentage active area, p	43.24 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.49607E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Heavy Roadworks - viaduct Source	vy construction ce ID:	Percentage active area, p	43.2 %	Assume % works area for heavy construction Water suppression 12 times a day
01: 0	CA3, CA4, CA5, CA6, CA7, CA8	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: CA	CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources i mai rieport
Q4: C <i>F</i>	CA3, CA4, CA5, CA6, CA7, CA8	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.68265E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			1.3966E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	d Erosion rce ID: (as above)	Percentage active area, p	43.2 %	
Source		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	3.49607E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - Heavy	vy construction	Percentage active area, p	29.3 %	Assume % works area for heavy construction
viaduct (Concept F, Option 3) Source Q1: RF RF13,	RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
RF35, Q2: RF RF13,	5, RF36, RF37 RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, 3, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23,	No of working days nor month d	20 days	Sources Final Report
RF35, Q3: RF	RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	No. of working days per month, d	30 days	
RF24, RF35, Q4: RF	RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	No. of working hours per day, h	24 hour	AP42 Section 12.2.2.2
RF24,	3, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, 4, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, 5, RF36, RF37	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	1.14122E-06 g/m²/s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			9.47215E-08 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000°30*h*60*60)*p/100 * (5/30) * 7.5
	d Erosion rce ID: (as above)	Percentage active area, p	29.3 %	
Source	(סייטום פון . טוי אי	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.37113E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	y construction	Percentage active area, p	8.1 %	Assume % works area for heavy construction
Interchange Station (AIS)			01.7.9/	Water suppression 12 times a day
	AIS1, AIS2, EVA6, EVA7, EVA8	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	AIS1, AIS2, EVA6, EVA7, EVA8	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Factor (0.03)  Emission Rate	0.0807 Mg/hectare/month of activity 2.51202E-07 g/m²/s (unmitigated)	Inompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			2.08497E-08 g/m²/s (mitigated)	
		Percentage active area, p	8.07 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.52405E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.15 - D	etails of Dust Emission Sources for Annual FSP Assess	ment at Year 2018		
Baggage Hall - Baggage Handling	Heavy construction Source ID:	Percentage active area, p	10.7 %	Assume % works area for heavy construction
System (BHS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: BHS1, BHS2, EVA9 Q3: BHS1, BHS2, EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: BHS1, BHS2, EVA9	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	3.33502E-07 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		2.76807E-08 g/m²/s (mitigated)	
	Source ID: (as above) Q1:	Percentage active area, p	10.71 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.66151E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: NAD1, NAD2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAD1, NAD2 Q3: NAD1, NAD2 Q4: NAD1, NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.29094E-08 g/m²/s (unmitigated) 1.07148E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.41 %	
	Q1: NAD1, NAD2	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	3.35276E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
DUC and ADM	Manus construction	Deventore estive even	, and the second	, , , ,
BHS and APM tunnel	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction  Water suppression 12 times a day
	Q1: BAT1, BAT2, NAB3, NAB4 Q2: BAT1, BAT2, NAB3, NAB4	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: BAT1, BAT2, NAB3, NAB4 Q4: BAT1, BAT2, NAB3, NAB4	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.52021E-08 g/m²/s (unmitigated) 1.26177E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BAT1, BAT2, NAB3, NAB4	Percentage active area, p	0.49 %	
	Q1. DAT1, DA12, 1900, 19004	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.94819E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
	Source ID.	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: T2E-1, T2E-2, T2E-3, AIS1, AIS2, BHS2 Q2: T2E-3 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.46382E-09 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Mind Essain		4.53497E-10 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.41903E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion - Car Park North (North	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
Annex Building)	Q1: NAB1, NAB2, BHS1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAB1, NAB2 Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	U4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.86999E-09 g/m²/s (unmitigated) 4.04209E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	0.2 %	
	Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.2648E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T0.5			, and the second	2.35 3.55 1.353360/(10000 000 27 00 00) p/100
T2 Expansion - Lounge Limo (South Annex Building)	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction Water suppression 12 times a day
0,	Q1: SAB Q2: SAB	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: Q4:	No. of working days per month, d	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.69905E-09 g/m²/s (unmitigated) 4.73021E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.48012E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100

## Appendix 5.2.15 - Details of Dust Emission Sources for Annual FSP Assessment at Year 2019 Third Runway Work Areas

Third Runway Work	CAreas			
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 6.6 %	Remarks
Formation	Source ID: For 24hrs activities:	. oroomago aouvo aroa, p	0.0 %	Assume % works area for heavy construction
	Q1: 2_01, 2_02A	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 2_01, 2_02A, 2_05A	No. of working days per month, d	30 days	·
	Q3: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_05A	No. of working hours per day, h	24 hour	
	Q4: 2_02B-1, 2_02B-2, 2_03A	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.06269E-07 g/m²/s (unmitigated) 1.71203E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	6.6 %	
	Q1: 1_09-1, 1_09-2, 2_06-1, 2_06-2, 2_06-3, 3_02A-1, 3_02A-2, 3_02A-3	Mitigation efficiency	91.7 %	
	Q2: 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	O3: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3	No. of working hours per day, h	12 (night) hour	
	Q4: 2_09-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.12537E-07 g/m²/s (unmitigated) 3.42406E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	6.6 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used testimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.35708E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	Nr. 15			
hird Runway Vind Erosion (only)	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 2_02B-1, 2_03A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2, 2_08, 2_09-1, 2_09-2, 3_02B	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: 2_02B-1, 2_03A, 2_03B, 2_05B-1, 2_05B-2, 3_02B Q3: 1_09-2, 3_02B Q4: 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
hird Runway Other	Heavy construction	Percentage active area, p	1.8 %	Assume % works area for heavy construction
construction Vorks/Facilities on ewly formed land	Source ID: 01:1_01_1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_07-1, 1_08A-1, 1_08B-1, 2_02B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 4_04	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_09-1, 2_02B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2, 4_04	No. of working days per month, d	30 days	
	Q3: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_09-1, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2, 4_04	No. of working hours per day, h	24 hour	
	04: 1_09-1, 1_09-2, 2_01, 2_02A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2, 4_04	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.75391E-08 g/m²/s (unmitigated) 4.77575E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.49437E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
lidfield	Heavy construction Source ID:	Percentage active area, p	1.5 %	Assume % works area for heavy construction
evelopment (MD)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	O1: MD Q2: MD Q3: MD Q4: MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.73069E-08 g/m²/s (unmitigated) 3.92648E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.5 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used I Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.22863E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	1	1	1	

Appendix 5.2.15 - D	Appendix 5.2.15 - Details of Dust Emission Sources for Annual FSP Assessment at Year 2019					
South Cargo	Heavy construction	Percentage active area, p	11.16 %	I		
Roadworks - at grade	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust		
	Q1: CA1, CA2 Q2: CA1, CA2			Sources Final Report		
	Q3: CA1, CA2 Q4: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour			
	U4. UN 1, UNZ	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	4.16979E-06 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12		
			3.46092E-07 g/m²/s (mitigated)	,,,,,		
	Wind Erosion Source ID: (as above)	Percentage active area, p	11.16 %	AD40 Table 14 0 4		
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	9.0246E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	11.2 %	Assume % works area for heavy construction		
noadworks - viaduct	Q1: CA3, CA4, CA5, CA6, CA7, CA8	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2: CA3, CA4, CA5, CA6, CA7, CA8 Q3: CA3, CA4, CA5, CA6, CA7, CA8 Q4: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Cources i mai rieport		
	GH. OND, OND, OND, ONT, OND	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	4.34353E-07 g/m <sup>2</sup> /s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)  1=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5		
			3.60513E-08 g/m²/s (mitigated)	=2.09 0.3 1000000/(10000 30 11 00 00) p/100 (3/30) 7.3		
	Wind Erosion Source ID: (as above)	Percentage active area, p	11.2 %			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	9.0246E-09 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100		
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	7.6 %	Assume % works area for heavy construction		
Option 3)	Q1: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working days per month, d	30 days			
	O3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working hours per day, h	24 hour			
	O4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	2.9459E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)		
			2.4451E-08 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5		
	Wind Erosion	Percentage active area, p	7.6 %			
	Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to		
		Emission Rate	6.12074E-09 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100		
New APM	Heavy construction	Percentage active area, p	2.6 %	I		
Interchange Station (AIS)	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust		
	Q1: AIS1, AIS2, EVA6, EVA7, EVA8 Q2:	No. of working days per month, d	30 days	Sources Final Report		
	Q3: Q4:	No. of working days per month, d	24 hour			
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	8.20748E-08 g/m²/s (unmitigated) 6.81221E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.64 %			
	Q1: AIS1, AIS2, EVA6, EVA7, EVA8	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005		
		Emission Rate	2.1316E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100		

Appendix 5.2.15 - D	Details of Dust Emission Sources for Annual FSP Assessm	ent at Year 2019		
Baggage Hall - Baggage Handling	Heavy construction Source ID:	Percentage active area, p	7.4 %	Assume % works area for heavy construction Water suppression 12 times a day
System (BHS)	Q1: BHS1, BHS2, EVA9	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: Q4: BHS1, BHS2, EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	GA. DINI, DINZ, EVA	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.2904E-07 g/m²/s (unmitigated) 1.90103E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BHS1, BHS2, EVA9	Percentage active area, p	7.36 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.94849E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
(· · · · <u>-</u> /	Q1: NAD1, NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q: NAD1, NAD2 Q3: NAD1, NAD2 Q4: NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Cources Final Fields
	U4: NAU2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.29094E-08 g/m²/s (unmitigated) 1.07148E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.41 %	
	Q1: NAD1, NAD2	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used 1 Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.35276E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
tunnel	Q1: BAT1, BAT2, NAB3, NAB4	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: BAT1, BAT2, NAB3, NAB4 Q3: BAT1, BAT2, NAB3, NAB4	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Society - Mai Neppi.
	Q4: BAT1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.52021E-08 g/m²/s (unmitigated) 1.26177E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BAT1, BAT2, NAB3, NAB4	Percentage active area, p	0.49 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.94819E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.8 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources i mai report
	Q4: AIS1, AIS2, NAB1, NAB2, NAB3, NAB4, BAT2, NAD1, EVA6, EVA7, EVA8	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.4034E-08 g/m²/s (unmitigated) 1.99482E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.24196E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

### Appendix 5.2.15 - Details of Dust Emission Sources for Annual FSP Assessment at Year 2020 Third Runway Work Areas

Third Runway Work	Areas			
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 0.1 %	Remarks
Formation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	Q1:			Water suppression 12 times a day
		Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3: Q4:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.95947E-09 g/m²/s (unmitigated) 1.62636E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	0.1 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	Q3: 3_02A-1, 3_02A-2, 3_02A-3 Q4:	No. of working hours per day, h	12 (night) hour	
	<b>.</b>	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.91894E-09 g/m²/s (unmitigated) 3.25272E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	AP42. Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.08901E-11 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			Deced on movimum fines centert of COV in a 1 to 1
Wind Erosion (only)	Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: 2_09-1, 3_02B Q3: 2_09-1, 3_02B	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Q4: 3_02A-1, 3_02B Heavy construction	Percentage active area, p	1.3 %	A
Construction Works/Facilities on	Source ID: Q1: 1_09-1, 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B- 1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-		91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	2 Q2: 1_09-1, 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-			Sources Final Report
	1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09- 2 Q3: 1_09-1, 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-	No. of working days per month, d	30 days	
	U3: 1_09-1, 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2 Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1,	No. of working hours per day, h	24 hour	
	2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_09-1, 3_02A-2, 3_02A-3	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.10099E-08 g/m²/s (unmitigated) 3.40382E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.3 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.06508E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Midfield	Heavy construction	Percentage active area, p	0.7 %	Assume % works area for heavy construction
development (MD)	Source ID:	Mitigation officioney	Q1 7 9/	Water suppression 12 times a day
	Q1: MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: MD Q3: MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: MD	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.05772E-08 g/m²/s (unmitigated) 1.70791E-09 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.7 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	5.34418E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Western Support Area Emergency	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Access Road (flyover)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: WSA1, WSA2, WSA3, WSA4 Q2: WSA1, WSA2, WSA3, WSA4	No. of working days per month, d	30 days	Sources Final Report
	Q3: WSA1, WSA2, WSA3, WSA4 Q4: WSA1, WSA2, WSA3, WSA4	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Figitive Dust Emissions from PM10, April 2005  Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	2.14727E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)  '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.78223E-07 g/m²/s (mitigated)	==.55 5.5 15555500(15000 50 11 00 00) p/100 (5/50) 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t
		Emission Rate	4.46141E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*1000000/(10000*365*24*60*60)*p/100
Ì			<del></del>	

Western Support	etails of Dust Emission Sources for Annual FSP  Heavy construction	Percentage active area, p	55.2 %	Account of the state of the sta
Area Emergency Access Road	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
(at grade)	Q1: WSA5 Q2: WSA5	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: WSA5 Q4: WSA5	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.06138E-05 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.71095E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	100 7 11 11 11
		Emission Factor (0.03) Emission Rate	0.0255 Mg/hectare/year 4.46141E-08 g/m²/s	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			•	, , , , , , , , , , , , , , , , , , ,
New APM Interchange Station (AIS)	Heavy construction Source ID:	Percentage active area, p	1.9 %	Assume % works area for heavy construction Water suppression 12 times a day
( -/	Q1: AIS1, AIS2, EVA6, EVA7, EVA8 Q2: AIS1, AIS2, EVA6, EVA7, EVA8	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: AIS1, AIS2, EVAG, EVA7, EVA8 Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	1000 0 7 10000
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3  Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.93756E-08 g/m²/s (unmitigated) 4.92818E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: AIS1, AIS2, EVA6, EVA7, EVA8	Percentage active area, p	1.91 %	
	. ,,,	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.54207E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Baggage Hall -	Heavy construction	Percentage active area, p	3.0 %	Assume % works area for heavy construction
Baggage Handling System (BHS)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: BHS1, BHS2, EVA9 Q2: BHS1, BHS2, EVA9	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	9.39246E-08 g/m²/s (unmitigated) 7.79574E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.02 %	
	Q1: BHS1, BHS2, EVA9	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.43935E-09 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot	Heavy construction	Percentage active area, p	0.3 %	Assume % works area for heavy construction
(NAD)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: NAD2 Q2: NAD1, NAD2	No. of working days per month, d	30 days	Sources Final Report
	Q3: NAD1, NAD2 Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	9.68208E-09 g/m²/s (unmitigated) 8.03613E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.31 %	
	Q1: NAD2	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	2.51457E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction	Percentage active area, p	0.2 %	A
tunnel	Source ID:		91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: BAT1 Q2: BAT1, BAT2, NAB3, NAB4	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.51517E-09 g/m²/s (unmitigated) 5.40759E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BAT1	Percentage active area, p	0.21 %	
	Q1. DATI	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.69208E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: NAB1, NAB2, NAB3, NAB4, BAT2, NAD1 Q2: NAB1, NAB2 Q3:	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03) Emission Rate	0.0807 Mg/hectare/month of activity  5.12952E-09 g/m²/s (unmitigated) 4.2575E-10 g/m²/s (mitigated)	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	4.2575E-10 g/m/s (miligated)	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
İ		Emission Rate	1.33221E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Third Runway Work	Third Runway Work Areas						
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 0.9 %	Remarks			
Formation	Fource ID: For 24hrs activities:	Sissings don't didd, p	3.5 /5	Assume % works area for heavy construction			
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report			
	Q2:	No. of working days per month, d	30 days	Courses I mai report			
	Q3:	No. of working hours per day, h	24 hour				
	Q4: 3_01B-1, 3_01B-2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	2.67288E-08 g/m²/s (unmitigated) 2.21849E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100			
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.9 %				
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	6.94183E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100			
Third Down	Wed Foreign						
Third Runway Wind Erosion (only)	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012			
	Q1: 3_02A-1, 3_02B	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
	Q2: 3_02A-1, 3_02B Q3: 3_02A-1, 3_02B Q4: 3_02A-1, 3_02B	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100			
Third Runway Other Construction		Percentage active area, p	0.6 %	Assume % works area for heavy construction			
Works/Facilities on newly formed land	C1: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_09-1, 3_02A-2, 3_02A-3	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report			
	Q2: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_01-1, 4_01-2, 4_01-3, 4_05-1	No. of working days per month, d	30 days				
	Q3: 2, 01, 2, 02A, 2, 02B-1, 2, 02B-2, 2, 03A, 2, 03B, 2, 05A, 2, 05B-1, 2, 05B-2, 2, 07A-1, 2, 07A-2, 2, 07B, 3, 01A-1, 3, 01A-2, 3, 01B-3, 3, 01B-2, 4, 01-1, 4, 01-2, 4, 01-3, 4, 05-1 Q4: 2, 01, 2, 02A, 2, 02B-1, 2, 02B-2, 2, 03A, 2, 03B, 2, 05A, 2, 05B-1,	No. of working hours per day, h	24 hour				
	(Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_05B-3, 2_05B-1, 2_05B-2, 2_05B-3, 2_05B-1, 2_05B-2, 2_05B-3, 2_05B-1, 2_05B-1, 2_05B-2, 2_05B-3, 2_05B-1, 2_05B-2,	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	1.84274E-08 g/m²/s (unmitigated) 1.52947E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100			
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %				
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	4.78584E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100			
Airside tunnels (AT)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction			
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report			
	Q1: AT1, AT3 Q3: AT1, AT3 Q4: AT1, AT2, AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	,			
	,,	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	1.28853E-08 g/m²/s (unmitigated) 1.06948E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100			
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.4 %				
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005			
		Emission Rate	3.34649E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100			
Midfield	Heavy construction	Percentage active area, p	0.6 %	Assume % works area for heavy construction			
development (MD)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust			
	Q1: MD Q2: MD Q3: MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report			
	Q4: MD	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to			
		Emission Rate	1.74857E-08 g/m²/s (unmitigated) 1.45132E-09 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100			
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %				
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to			
		Emission Rate	4.54129E-10 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100			

	Details of Dust Emission Sources for Annual FSP Assessm		1	
South Cargo Roadworks - at grade	Heavy construction Source ID:	Percentage active area, p  Mitigation efficiency	3.63 % 91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q3: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: CA1, CA2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.35651E-06 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.1259E-07 g/m²/s (mitigated)	, , , , ,
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.63 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.93586E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduc	Heavy construction Source ID:	Percentage active area, p	3.6 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: CA3, CA4, CA5, CA6, CA7, CA8 Q4: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4- Ch3, Ch4, Ch3, Ch6, Ch7, Ch6	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.41303E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69°0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.17281E-08 g/m²/s (mitigated)	-2.55 6.5 1000000/(10000 50 11 00 00) p/100 (5/50) 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.6 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.93586E-09 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	2.5 %	Assume % works area for heavy construction
Option 3)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	No. of working days per month, d	30 days	
	RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working hours per day, h	24 hour	
	Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	9.58355E-08 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			7.95435E-09 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.5 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.99118E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Third Runway Work	Areas			
Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.3 %	Assume % works area for heavy construction
	Q1: 3_02B	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4: 3_02B	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.80231E-09 g/m²/s (unmitigated) 7.30591E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.3 %	AD40 T-hh 44.0 4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.28608E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			
Wind Erosion (only)	Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 3_02A-1	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: 3_02A-1 Q3: 3_02B Q4:	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Heavy construction Source ID:	Percentage active area, p	1.3 %	Assume % works area for heavy construction
Construction Works/Facilities on newly formed land	O11: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_01-1, 4_01-2, 4_01-3, 4_03-1, 4_03-2, 4_05-1, 02: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-3, 3_02B, 4_03-1, 4_03-2, 4_05-1	No. of working days per month, d	30 days	
	1 Q3: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_02A-1, 4_05-1 Q4: 2_01, 2_02A, 2_02B-1, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 4_05-	No. of working hours per day, h	24 hour	
	1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.18554E-08 g/m²/s (unmitigated) 3.474E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.3 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.08704E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Airside tunnels (AT)	Heavy construction	Percentage active area, p	0.6 %	
, moide tulliels (A1)	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: AT1, AT2, AT3 Q2: AT2, AT3 Q3: AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: AT3	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	1.92465E-08 g/m²/s (unmitigated) 1.59746E-09 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.99859E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
L	•			•

Description Barging Point	Sources Unloading of spoils to barge	Parameter  Particle size multiplier, k	0.053	Emission Rate	Remarks For FSP, AP-42, section 13.2.4, 11/06 ed.
oarging Point	Unloading of spoils to barge Source ID: TBP1-6	Particle size multiplier, k Moisture content, M	0.053	%	Assume as the same as Express Rail Link and Extracted from SP
		Mean wind speed, U Emission Factor, E	4.9 6.66E-05	m/s kg/Mg	License of XRL (Appendix C).  HKOAMO 2012 annual average wind speed  E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
		No. of operation hour		hr	(AP-42, section 13.2.4, 11/06 ed.) 26 days per month
		Maximum handling capcity for each barging point	2.61E-01	Mg/day kg/hr (Asphalt)	From engineer Assume 12 working hours (7:00 - 19:00) per day
		Emission height Mitigation efficiency	0.5 90	%	Installation of flexible curtain and shelter with water spray at discharge point
Concrete	Paved haul road outside concrete batching plant -	Emission Rate Particle size multiplier, k	0.15	g/s (mitigated) g/VKT	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
Batching Plant	For <b>Laden</b> Vehicle Source ID:	Road surface silt loading, sL Average truck weight, W		g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of Asphalt Tipper, engineering estimate
	WAB-HR1 to WAB-HR13 WAB-P4-HR1 to WAB-P4-HR10	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10	FSP emission factor, E	44	g/VKT	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	EAB-HR1 to EAB-HR4	No. of truck trips per day		trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4 EC-HR1 to EC-HR14 EC-P2-HR1 to EC-P2-HR7	No. of operation hour % of dust suppression		trips/hr hr %	From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant  Assume as the same as Express Rail Link and Extracted from SP
		Emission Rate		g/m/s (mitigated) g/m/s (mitigated)	License of XRL (Appendix C).  Asphalt Tipper Lorries in Asphalt Plant Asphalt Tipper Lorries in Concrete Batching Plant
2	Douglas de la catalante de la	Destinate and the line to			
Concrete Batching Plant	Paved haul road outside concrete batching plant - For <b>Unladen</b> Vehicle	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	12	g/VKT g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of Asphalt Tipper, engineering estimate
	Source ID: WAB-HR1 to WAB-HR13	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse
	WAB-P4-HR1 to WAB-P4-HR10  WC-HR1 to WC-HR13  WC-P4-HR1 to WC-P4-HR10	FSP emission factor, E	12	g/VKT	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	EAB-HR1 to EAB-HR4	No. of truck trips per day		trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4	No. of operation hour		trips/hr hr %	From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-HR1 to EC-HR14 EC-P2-HR1 to EC-P2-HR7	% of dust suppression	97.5	%	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate		g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant
Concrete	Unloading aggregate	Consumption Rate (Western + Eastern)	300	g/m/s (mitigated) Mg/h (Asphalt) Mg/h (Capacita)	Asphalt Tipper Lorries in Concrete Batching Plant From engineer: Asphalt: 300 ton/hr = 150 ton/hr x 2 plants
Batching Plant Unloading of raw		Consumption Rate (Western only)	150	Mg/h (Concrete) Mg/h (Asphalt)	From engineer: Concrete: 2000 ton/hr = 500 ton/hr x4 plants From engineer: Asphalt: 150 ton/hr
naterials)	WAB-EP9, WAB-P4-EP9, WC-EP9, WC-P4-EP9	Particle size multiplier, k Moisture content, M	0.053	Mg/h (Concrete) %	From engineer: Concrete: 500 ton/hr For FSP, AP-42, section 13.2.4, 11/06 ed. Assume as the same as Express Rail Link and Extracted from SP
	EAB-EP9, EC-EP9, EC-2-EP9, EC-3-EP9,	Mean wind speed, U		m/s	License of XRL (Appendix C).  HKOAMO 2012 annual average wind speed
	EC-P2-EP9	Emission Factor, E		kg/hr (Asphalt - Westen + Eastern)	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4) (AP-42, section 13.2.4, 11/06 ed.)
			0.04	kg/hr (Concrete - Western +Eastern) kg/hr (Asphalt - Westen only) kg/hr (Concrete - Western only)	
		Mitigation efficiency	99		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		No. of operation hour Emission height	12 4	m	
		Emission Rate (Western + Eastern) - Period 2 to 4	1.00E-04	g/s (mitigated) (Asphalt)	For each plant (150 ton/hr) Period 2 to 4: 150 ton/hr x 2 plants
			3.34E-04	g/s (mitigated) (Concrete)	For each plant (500ton/hr) Period 2: 500ton/hr x 2 plants Period 384: 500ton/hr x 4 plants
		Emission Rate (Western only) - Period 1		g/s (mitigated) (Asphalt)	For 150 ton/hr only
Concrete Batching Plant	Small Cementitious Material Silos Source ID: (EP5-EP8)	Density		g/s (mitigated) (Concrete) Mg/m3	For 500 ton/hr only For Concrete & Asphalt density Refer to this web
Cement / PFA Silos)	WAB-EP5 to EP8, WAB-P4-EP5 to EP8, WC-EP5 to EP8. WC-P4-EP5 to EP8	FSP emission factor (0.14)	7	mg/m3	"http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt" Concretration limit, Annex I, A Guidance Note on the Best Praticable
	EAB-EP5 to EP8,				Means for Cement Works (Concrete Batching Plant), EPD
	EC-EP5 to EP8, EC-2-EP5 to EP8, EC-3-EP5 to EP8, EC-P2-EP5 to EP8	Dust exhaust flow rate for each mixer (Total 4 sources)	1200	tons/hr (Asphalt) tons/hr (Concrete) m3/hr (Asphalt)	Assume volume displacement by loading material For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7	m3/hr (Concrete)	To consider a replicat density. E.E.4 (one/me
		No. of small cement silos	4		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission height	21 or 22	m	EPS: 21m, EP6-EP8: 22m Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate (Total 4 sources)	1.04E-03	g/s (mitigated) (Asphalt) g/s (mitigated) (Concrete)	
	DEA weight Hopper	Emission Rate (Each source)	2.60E-04	g/s (mitigated) (Asphalt) g/s (mitigated) (Concrete)	Weight bosons looding (unperturbled) AD 40 coption 11 40 4 Table
	PFA weight Hopper Source ID: (EP3-EP4) WAB-EP3 to EP4, WAB-P4-EP3 to EP4,	Emission Factor (without mitigation)  Density	2.60E-03 2.24	кg/мg Mg/m3	Weight hopper loading (uncontrolled), AP-42, section 11.12-4, Table 11.12-1, 6/06 ed. For Concrete & Asphalt density Refer to this web
	WC-EP3 to EP4, WC-P4-EP3 to EP4				"http://www.aqua-calc.com/page/density-table/substance/concrete-coand-blank-asphalt"
	EAB-EP3 to EP4, EC-EP3 to EP4, EC-2-EP3 to EP4, EC-3-EP3 to EP4, EC-P2-EP3 to EP4	Emission factor Production rate (Total 2 sources)		m3/hr (Asphalt)	From engineer
	LO-72-EF3 10 EF4	Mitigation efficiency Emission height	429 99 13		Total enclosure and fabric filter
		Emission neight Emission Rate (Total 2 sources)	4.04E-04	m g/s (mitigated) (Asphalt) g/s (mitigated) (Concrete)	
Concrete Batching Plant	Mixer Source ID: (EP1-EP2)	Density		Mg/m3	For Concrete & Asphalt density Refer to this web
(Mixing Tower)	WAB-EP1 to EP2, WAB-P4-EP1 to EP2, WC-EP1 to EP2, WC-P4-EP1 to EP2	FSP emission factor (0.14)	7	mg/m3	"http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt" Concretration limit, Annex I, A Guidance Note on the Best Praticable
	EAB-EP1 to EP2, EC-EP1 to EP2, EC-2-EP1 to EP2, EC-3-EP1 to EP2,		,	<del>.</del>	Means for Cement Works (Concrete Batching Plant), EPD
	EC-P2-EP1 to EP2	Dust exhaust flow rate for each mixer (Total 2 sources)	1200	tons/hr (Asphalt) tons/hr (Concrete) m3/hr (Asphalt)	Assume volume displacement by loading material For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7	m3/hr (Concrete) hr	. S. Sonosto & repriat density. 2.24 tolismo
		No. of small cement silos Emission height	2	m	
		Emission Rate (Total 2 sources)	147		

Compared and Com	Darging Forms, C	crushing Plant, Concrete and Asphalt Batching Plants	, C&D Stockpile and other Stockpiles (FSP)			
SEARCH MAN CONTROL OF THE CONTROL OF						
March	Asphalt batching	Source ID:	Percentage open stockpile area, p	20	0)%	material should be sprayed with water immediately prior to any loading
March   Marc	plant in western location					
Page		WABA2, WABA2-P4				
March   Marc						
March   Marc						
## 100 Part   100 Part				5,250	m3/month (Aggregate)	From engineer
March			Maximum hourly output, op	1.1	1 m3/hr (Asphalt)	26 days per month, 12 working hours per day
Part						Assume capacity of dump truck is $6m^3$ and 15 tops
Amount of the property of th			Average 6 Alexa Alexa had been alexa distribution of the control o	42.1	Mg/hr (Aggregate)	Assume capacity of dump truck is one and 13 tons
Content Print General Content Conten						
Property of the Company of the Com			Emission Rate (Asphalt stockpile)	2.12177E-07	7 g/m²/s (unmitigated)	
Martine			Emission Rate (Aggregate stockpile)	3.53766E-07	7 g/m²/s (unmitigated)	
Production   Pro			Percentage open stockpile area, p	100	% (unmitigated)	
Total Content		Source ID: As above		0.0255	Mg/hectare/year	AP42, Section 11.9.4
March   Marc			Emission Rate			=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Act	Milled Meterial	Material handling and storage piles	Persontago anon staskaila area n			90% stackailing area is sovered by important about and all dusty
Commerced   Comm	Crushed	Source ID:	Регсептаде орен Stockpile area, р	20	76	material should be sprayed with water immediately prior to any loading
### Comparison   Aggregate and Sub-base	WAR1, WAR1-P4	Particle size multiplier, k	0.053	3		
Package   Pack	Stockpile in	WCAS1, WCAS1-P4			- 1	
April   Apri	Western reduction	WSS1, WSS1-P4				
Administration of Calcada Ce  Admini				422	2 m3/month (Milled Material)	From engineer
Martin Procy catalog Co.						
Supplied the second of the common of the com			Maximum hourly output, op	1.4	1 m3/hr (Milled Material)	
Table   March   Table   Marc				52.2	2 m3/hr (Sub-base stockpile)	
Marco   Part March Control organ 2   100				121.6	Mg/hr (Crushed Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
Make of the Control Agricultural Section of Agricultur			Area of the Milled Material stockpile A	130.4	Mg/hr (Sub-base stockpile)	
Personner time year of the Court of Agricultural Court of Agricu			Area of the Crushed Aggregate stockpile, A	5,822	2 m <sup>2</sup> (Crushed Aggregate)	
Establish Rat (Carrier Agricultum)  Establish Rat (Carrier Agricultum)  Establish Rat (Carrier Agricultum)  Freedrich Rat (Carrier Agricul			• •	6,209 2.24376E-07	m²(Sub-base stockpile) 7 g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
Emption Plant of Comment of Comme			, , , , , , , , , , , , , , , , , , ,	4.48752E-08	g/m²/s (mitigated)	
Note of the second content of the second c				7.72983E-08	g/m²/s (mitigated)	
Secret D As 2009  Secret D As			` '	7.76891E-08	g/m²/s (mitigated)	
Unicipate intention (DS) Secretary (Secretary (Secretar			Percentage open stockpile area, p			80% stockpiling area is covered by impervious sheets
Total form   Total				0.0255	Mg/hectare/year	AP42, Section 11.9.4
Apace of terminal part			Ellission hate			=0.65 0.05 1000000/(10000 365 24 60 60) p/100
County   C	Stockpile within	Material handling and storage piles	Percentage open stockpile area, p	20	0 %	80% stockpiling area is covered by impervious sheets and all dusty
Particle 20x multiples   Particle 20x multip						material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
Angel Process of Control   Control Plance   Control Pla	location					k (particle size < 30μm)
Materium hourly output, up 1  Anna of im Agryania associate. A few of the Agry						
Model with plants of the Apphal educing in American Segment (Apphal educing in American Segment (Appha			Emission Factor, E	6.65864E-05	5 kg/Mg	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
Major   Majo			Monthly output	67	7 m3/month (Asphalt)	
Ace of the Against society, A Ace of the Ace of the Against society, A Ace of the				1,050	m3/month (Aggregate)	From engineer
Anse of the Agricult stockpic A. Bellison Faster (F.O.) Finden			Maximum hourly output, op	0.2	2 m3/hr (Asphalt)	26 days per month, 12 working hours per day
According to Application   According to Applic						Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
Area of the Camera coolspile. A mission Patter for Agregated bedoeline. A mission Patter for Agregated bedoeline. A mission Patter for Agregated bedoeline. A mission Patter for Months of Agregated bedoeline. B				8.4	Mg/hr (Aggregate)	Assume capacity of dump truck is one and 13 tons
Emission Rate (Applies tescelaris)  Emission Rate (Applies tescelaris)  Emission Rate (Applies tescelaris)  Survice Or As above  Emission Factor (0.02)  Emission Factor (0.02						
Emission Table (Aggregate)			Emission Rate (Asphalt stockpile)	6.46124E-08	g/m²/s (unmitigated)	
Virid or oncoor   Surve D. As above   Percentage open stockpile area, p			Emission Rate (Aggregate stockpile)	2.77069E-07	7 g/m²/s (unmitigated)	
Emission Factor (0.03) Emission (1.2 EACA) Emi			Percentage open stockpile area, p	100	% (unmitigated)	
Emission Rate  Emission Rate  1.0.0000 (impligated)  1.0.7750 of priving (immigrated)  1.0.7750 of priving (immigrated)  Antifod backing Scorron D:  Antifod backing Scoro		Source ID: As above	Emission Factor (0.03)			
Size-Cycle within Control of Search (202)  For contrage open stockpile area, p.  Parcicle Size multiplier, k. Michaire content. M. Mich				8.086E-08	g/m²/s (unmitigated)	
Aireful bashing Source ID.  ACCT, E.CAC1  Analos size mitholise is eastern location  Acctive content, M.  Average wind seed, U.  Emission Factor, E.  Morthly output.  Assay of the Comment stockpile, A.  Assay of the Comment stockpile, A.  Assay of the Comment stockpile, E.  Emission Factor, I.C.  Assay of the Comment stockpile, A.  Assay of the Comment stockpile, E.  Emission Factor, I.C.  Assay of the Comment stockpile, A.  Assay of the Comment stockpile, E.  Emission Factor, I.C.  Assay of the Comment stockpile, A.  Assay of the Comment stockpile, B.  Emission Factor, I.C.  Emission	0. 1					
Particle stor multiplier is Mostave contest. M Average wind speed, U Mostave contest. M Average wind speed U Mostave contest. M Average wind speed U Mostave contest. M Average the Appropriate stockpile. A Average of the Appropriate stockpile average contest. M Average wind speed U Mostave contest. M Average wind spee	Airfield batching	Source ID:	Percentage open stockpile area, p	20	J %	material should be sprayed with water immediately prior to any loading
Mosture content, M. Average wird speed, U.   4, 9 m/s		EACC1, EACA1	Particle size multiplier, k	0.053	3	
Emission Factor, E Mortifly output  Maximum hourly output, op  Maximum hourly output, op  Maximum hourly output, op  Area of the Cement stockpile, A Area of the Aggregate stockpile, A Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile, A Area of the Aggregate stockpile, A Area of the Aggregate stockpile, A Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile)  Wind erosion  Source ID: As above  Wind erosion  Percentage open stockpile area, p Emission Rate  Emission Factor (D.03)  Wind erosion  Percentage open stockpile area, p Emission Factor (D.03)  Emission Fact			Moisture content, M	5	5 %	Assume worst case scenario
Maximum hourly output, op  Maximum hourly output, op  Area of the Cement stockpile, A Area of the Aggregate stockpile, A Emission Rate (Cement) Emission Rate (Cement) Assume capacity of dump truck is 6m² and 15 tons  Assume capacity of dump truck is 6m² and 15 tons  Maximum hourly output, op  Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile) Emission Rate (Aggregate) Emission Rate (Aggregat						
Maximum hourly output, op  4.3 moth** (Coment) 4.3 moth** (Aggregate) 2.0 3 Mg/hr (Coment) 1.0 4 Assume capacity of dump truck is 6m² and 15 tons 1.0 4 Assume capacity of dump truck is 6m² and 15 tons 1.0 4 Assume capacity of dump truck is 6m² and 15 tons 1.0 4 Assume capacity of dump truck is 6m² and 15 tons 1.0 5 Mg/hr (Aggregate) 1.0 5 M						
Maximum hourly output, op  Area of the Gement stockpile, A Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile) Emission Rate (Aggregate stockpile, A Emission Rate (Aggregate stockpile) Emission Rate (Aggregate stockpile, A Area of the Aggregate stockpile, A Area of the Agg					, ,	
Area of the Cement stockpile, A Area of the Cement stockpile, A Area of the Agregate stockpile, A Emission Rate (Ement stockpile, A Emission Rate (Ement stockpile)   Area of the Agregate stockpile (Emission Rate (Ement stockpile)   Brission Rate (Ement stockpile) (Emission Rate (Ement stockpile) (Emission Rate (Ement stockpile) (Emission Rate (Emissi			Maximum housty output on		, 35 5 ,	
Area of the Cament stockpile, A Area of the Aggregate stockpile, A Area of the Aggregate stockpile of Emission Rate (Cament) Source ID: As above  Wind erosion Source ID: As above  Wind erosion Source ID: As above  Wind erosion Source ID: As above  Emission Rate (Cament) Source ID: As above  Emission Rate  Emission Rate  Emission Rate  Emission Rate  Percentage open stockpile area, p Emission Rate  Emission Rate  Emission Rate  Emission Rate  Percentage open stockpile area, p Emission Rate  Emission Rate  Emission Rate  Percentage open stockpile area, p Emission Rate  Emission Rate  Percentage open stockpile area, p Emission Rate  Emission Rate  Percentage open stockpile area, p Emission Rate  Percentage open stockpile area, p Eccl 2, ECG1 3, ECG1-P2  Particle size multiplier, k Average wind speed, U As miss  Emission Factor, E Average wind speed, U As miss  Area of the Cament stockpile, A Area of the Aggregate stockpile, A Emission Rate  Emission Rate (Cament) Area of the Cament stockpile, A Area of the Aggregate stockpile, A Emission Rate (Cament)  Area of the Cament stockpile, A Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile			ινιαλιπαιπ πουτιγ συτρυτ, σρ	44.3	m3/hr (Aggregate)	
Area of the Cement stockplie, A Area of the Cement stockplie, A Emission Rate (Cement actockplie)  Area of the Aggregate stockplie, A Emission Rate (Cement actockplie)  Emission Rate (Aggregate stockplie)  Emission Rate (Aggregate)  Ender Displace (Aggregate)  Avana of the Aggregate stockplie)  Area of the Aggregate stockplie area, p  Maximum hourly output, op  Maximum hourly output, op  Emission Rate (Aggregate)  Area of the Aggregate stockplie)  Emission Rate (Aggregate   Environment Stockplie, A Area of the Aggregate stockplie)  Emission Rate (Aggregate stockplie)  Emission Rate (Aggregate stockplie)  Emission Rate (Aggregate stockplie)  Emission Rate (Aggregate stockplie)  Emission Rate (Aggregate)			110.8	Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons	
Emission Rate (Cement stockpile)			• •	1,163	m² (Cement)	
Emission Rate (Aggregate stockpile)  Brission Rate (Aggregate stockpile)  Wind erosion Source ID: As above  Emission Factor (0.03) Emission Rate  Percentage open stockpile area, p Source ID: As above  Percentage open stockpile area, p Emission Rate  Percentage open stockpile area, p Source ID: Source ID				3.23687E-07	7 g/m²/s (unmitigated)	
Wind erosion Source ID: As above  Percentage open stockpile area, p Source ID: As above  Raterial handling and storage piles Source ID: As above  Percentage open stockpile area, p Emission Factor (0.03) Emi			Emission Rate (Aggregate stockpile)	3.84457E-07	7 g/m²/s (unmitigated)	Initigated Emission Hate'=E*1000*op/(A*60*60)*p/100
Source ID: As above  Emission Factor (0.03) Emission Factor (0.03) Emission Factor (0.03) Emission Rate  Material handling and storage piles Source ID:  Source ID:  ECA1_2. ECA1_3, ECA1-P2  ECA1_2. ECA1_3, ECA1-P2  Emission Factor, E Maximum hourly output, op  Area of the Cement stockpile, A Area of the Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Wind erosion  Source ID:  Emission Factor (0.03) Emission Rate  20 % (mittigated) 1.6172E-08   qm²/% (unmitigated) 1.6172E-08		Wind erosion		7.68914E-08	g/m²/s (mitigated)	
Emission Rate  Emission Rate  8.086E-08 g/m³/s (mitigated)  1.6172E-08 g/m³/s (mitigated)  -0.85°0.03*1000000/(10000°385°24'60'60)°p'100  80% stockpling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. Record of the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. Record of the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. Record of the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material sh				20	% (mitigated)	
Stockpile within Concrete Batching Plant in eastern location  Material handling and storage piles Source ID: ECC1_2, ECC1_3, ECC1-P2 ECA1_2, ECA1_3, ECA1-P2  Material handling and storage piles Source ID: ECC1_2, ECC1_3, ECC1-P2 ECA1_3, ECA1-P2  Moisture content, M Average wind speed, U Assume vorst case scenarion HKCAMC 2012 annual average wind speed Ek-k*0.0016*[(U/2.2)*1.3/(M/2)*1.4] From engineer From				8.086E-08	g/m²/s (unmitigated)	
Concrete Batching Plant in eastern location agreement ocation beatern location lo				1.6172E-08	g/m²/s (mitigated)	
Batching Plant in eastern location  ECG1_2, ECG1_3, ECG1-P2  Particle size multiplier, k Moisture content, M Average wind speed, U  Emission Factor, E Monthly output, op  Maximum hourly output, op  Area of the Cement stockpile, A Area of the Aggregate stockpile, A Area of the Aggregate stockpile, A Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Emission Rate (Onus)  Emission Rate (Onus)  Emission Factor (0.03)  Emissio			Percentage open stockpile area, p	20	0 %	
ECA1_2, ECA1_3, ECA1-P2	Batching Plant in		Porticle size multiplier I	0.055		or transfer operation so as to keep the dusty material wet.
Emission Factor, E Monthly output  Emission Factor, E Monthly output  Maximum hourly output, op  Maximum hourly output  Maximum hourly output  Maximum hourly output  Maximum hourly ou		ECA1_2, ECA1_3, ECA1-P2	Moisture content, M	5	5 %	Assume worst case scenario
Monthly output			Average wind speed, U			HKOAMO 2012 annual average wind speed
Maximum hourly output, op   138.7 m3/hr (Cement)   26 days per month, 12 working hours per day   7.54.7 m3/hr (Cement)   26 days per month, 12 working hours per day   26 days per month, 12 working hours per day   26 days per month, 12 working hours per day   26 days per month, 12 working hours per day   3.368.8 Mg/hr (Aggregate)   3.46.7 Mg/hr (Aggregate)   4.520 m3/hr (Gement)   4.520						
Maximum hourly output, op   138.7   554.7   m3/hr (Cement)   26 days per month, 12 working hours per day   554.7   m3/hr (Aggregate)   346.7   Mg/hr (Aggregate)   346.7   Mg/hr (Aggregate)   346.7   Mg/hr (Aggregate)   4 rea of the Cement stockpile, A   3.944   Mg/hr (Aggregate)   4 rea of the Aggregate stockpile, A   14,520   Mg/hr (Aggregate)   4 rea of the Aggregate stockpile, A   14,520   Mg/hr (Aggregate)   1.62605E-06   g/m²/s (unmitigated)   1.62605E-06   g/m²/s (unmitigated)   1.62605E-06   g/m²/s (unmitigated)   1.62605E-06   g/m²/s (unmitigated)   Mitigated Emission Rate = E*1000*op/(A*60*60)*p/100			Monthly output		, , ,	
Signature   Sign			Maximum hourly output, op	138.7	m3/hr (Cement)	
Area of the Cement stockpile, A   3,944   m2 (Cement)   Mg/Ipr (Aggregate)   3,944   m2 (Cement)   Mg/Ipr (Aggregate)   Mg/Ipr (Aggre				554.7	m3/hr (Aggregate)	
Area of the Aggregate stockpile, A Emission Rate (Cement stockpile)  Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Wind erosion  Source ID: As above  Area of the Aggregate stockpile, A Emission Rate (Cement stockpile)  Emission Rate (Aggregate stockpile)  Emission Rate (Aggregate stockpile)  Percentage open stockpile area, p  Emission Factor (0.03)  Emission Rate  Emission Rate  Emission Factor (0.03)  Emission Rate  Bemission Rate  14,520  M2/Aggregate)  Unmitigated)  Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100			Aron of the Compant at a limit.	1386.8	Mg/hr (Aggregate)	resource capacity of dump muck is one and 10 tons
Emission Rate (Cement stockpile)			Area of the Aggregate stockpile, A	14,520	m2(Aggregate)	
Emission Rate (Aggregate stockpile)   1.7666E-06   g/m²/s (unmitigated)   3.5332E-07   g/m²/s (mitigated)			Emission Rate (Cement stockpile)	1.62605E-06	g/m²/s (unmitigated)	
Wind erosion Percentage open stockpile area, p 100 % (unmitigated) Source ID: As above 20 % (mitigated) 80% stockpiling area is covered by impervious sheets Emission Factor (0.03) 0.0255 Mg/hectare/year AP42, Section 11.9.4 Emission Rate 8.086E-08 g/m³/s (unmitigated) =0.85*0.03*1000000/(10000*365*24*60*60)*p/100			Emission Rate (Aggregate stockpile)	1.7666E-06	g/m²/s (unmitigated)	- 3-12-2-11-13-2-2-1000 ορητίου σου μητου
Emission Factor (0.03) 0.0255 Mg/hecTare/year AP42, Section 11.9.4 Emission Rate 8.086E-08 g/m²/s (unmitigated) = 0.85*0.03*1000000/(10000*365*24*60*60)*p/100			Percentage open stockpile area, p	100	% (unmitigated)	
Emission Rate 8.086E-08 g/m²/s (unmitigated) =0.85*0.03*1000000/(10000*365*24*60*60)*p/100		Source ID: As above	Emission Factor (0.03)			
1.6172E-06 g/III-/s (IIIIIgaled)				8.086E-08	g/m²/s (unmitigated)	
				1.01/2E-08	grin /3 (initigateu)	

Description	Sources	Parameter		Emission Rate	Remarks
Aggregate	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
Stockpile in eastern location	ECA2, ECA2-P2	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
		Moisture content, M Average wind speed, U	5 4.9	m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	6.65864E-05	kg/Mg m3/month	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op		m3/hr	26 days per month, 12 working hours per day
		Area of the stockpile, A		Mg/hr	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Emission Rate	3.46531E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate		Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			1.6172E-08	g/m²/s (mitigated)	
near seawall	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
	CD1	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
		Moisture content, M Average wind speed, U		% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	6.65864E-05	kg/Mg m3/month	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op		m3/hr	26 days per month, 12 working hours per day
		Area of the stockpile, A		Mg/hr	Density of C&D material: 2Mg/m3 (from engineer)
		Emission Rate	3.54683E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate		Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
				g/m²/s (mitigated)	
midfield	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
	CD2, CD3	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
		Moisture content, M Average wind speed, U	-	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	6.65864E-05		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output  Maximum hourly output, op	,	m3/month	From engineer
		Area of the stockpile, A		m3/hr Mg/hr	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
		Emission Rate	4.86297E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate	0.0255	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
				g/m²/s (mitigated)	,,,,,
	Screening Source ID: CP1, CP2	FSP emission factor (0.03)	1.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
		Density of rock	1760	Kg/m3	Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT)
			700		Landfill Extension (EIA-143/2007) Annex A2
		Maximum handling capcity		Mg/hr	From engineer
		No. of operation hour Emission height Emission Rate	15	hr m g/s (mitigated)	
	Tertiary Crushing Source ID: CP1, CP2	FSP emission factor (0.03)		mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
		Density of rock		Kg/m3	Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT)
					Landfill Extension (EIA-143/2007) Annex A2
		Maximum handling capcity	700	Mg/hr	From engineer
		No. of operation hour Emission height	15	hr m	
Crushing Plant	Paved haul road outside crushing plant -	Emission Rate Particle size multiplier, k	0.15	g/s (mitigated) g/VKT	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
	For Laden Vehicle	Road surface silt loading, sL Average truck weight, W		g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of truck, assume the same as Asphalt Tipper, engineering
	Source ID:				estimate
	WAR URL: WAR URLS				
	WAB-HR1 to WAB-HR13 WC-HR1 to WC-HR13	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse
		Emission height FSP emission factor, E			from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)
				m g/VKT	from 0.5m height
			44		from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck From engineer:
		FSP emission factor, E  No. of truck trips per day	44 66	g/VKT	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck
		FSP emission factor, E	44 66	g/VKT trips/hr hr	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck  From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000
	WC-HR1 to WC-HR13	FSP emission factor, E  No. of truck trips per day  No. of operation hour	44 66 12 97.5 2.00E-05	g/VKT  trips/hr  hr % g/m/s (mitigated)	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck  From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C). Truck for crushing plant
Crushing Plant		FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL	44 66 12 97.5 2.00E-05	g/VKT trips/hr hr %	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
· ·	WC-HR1 to WC-HR13	FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k	44 66 12 97.5 2.00E-05 0.15	g/VKT  trips/hr  hr % g/m/s (mitigated) g/VKT	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
Ç	Paved haul road outside crushing plant - For <b>Unladen</b> Vehicle Source ID:	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	44 66 12 97.5 2.00E-05 0.15 12 8.24	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck  From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C). Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of truck, assume the same as Asphalt Tipper, engineerir estimate
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle	FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height	44 66 12 97.5 2.00E-05 0.15	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP  License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineerir estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	44 66 12 97.5 2.00E-05 0.15 12 8.24	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck  From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C). Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of truck, assume the same as Asphalt Tipper, engineeric estimate  Assumed that vehicle will lift dust from the road surface and disperse
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height  FSP emission factor, E	44 66 12 97.5 2.00E-05 0.15 12 8.24	g/VKT  trips/hr  hr % g/m/s (mitigated) g/VKT g/m2 tons  m g/VKT	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP  License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineerii estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height	44 66 12 97.5 2.00E-05 0.15 12 8.24	g/VKT  trips/hr  hr % g/m/s (mitigated) g/VKT g/m2 tons	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP  License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineeric estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	PSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height  FSP emission factor, E  No. of truck trips per day	44 66 12 97.5 2.00E-05 0.15 12 8.24 0.5	g/VKT  trips/hr  hr % g/m/s (mitigated) g/VKT g/m2 tons  m g/VKT trips/hr	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP  License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineerii estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	FSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height  FSP emission factor, E	44 66 12 97.5 2.00E-05 0.15 12 8.24 0.5	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons  m  g/VKT trips/hr	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineerir estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	PSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height  FSP emission factor, E  No. of truck trips per day  No. of operation hour	44 66 12 97.5 2.00E-05 0.15 12 8.24 0.5	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons  m  g/VKT trips/hr	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineeric estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh
	WC-HR1 to WC-HR13  Paved haul road outside crushing plant -  For Unladen Vehicle Source ID:  WAB-HR1 to WAB-HR13	PSP emission factor, E  No. of truck trips per day  No. of operation hour % of dust suppression  Emission Rate  Particle size multiplier, k Road surface silt loading, sL Average truck weight, W  Emission height  FSP emission factor, E  No. of truck trips per day  No. of operation hour	44 66 12 97.5 2.00E-05 0.15 12 8.24 0.5	g/VKT  trips/hr  hr % g/m/s (mitigated)  g/VKT g/m2 tons  m  g/VKT trips/hr	from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).  Truck for crushing plant  AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.  AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.  Empty loading of truck, assume the same as Asphalt Tipper, engineeric estimate  Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)  Truck  From engineer:  700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000  Assume density = 1760kg/m3, truck loading = 6m3/veh  Assume as the same as Express Rail Link and Extracted from SP

### (Annual) Floating Concrete Batching Plant

Description	Sources	Parameter	<u> </u>	Emission Rate	Remarks
	Unloading aggregate	Consumption Rate		Mg/h (Concrete)	From engineer: Concrete: 39.6 ton/hr = 1900 ton / (2 days * 24 h)
	Source ID:	Aggregate tank capacity		tons	From engineer
Unloading of raw naterials)	F-EP1	Refill frequency	2	days	From engineer
ialeriais)	r-cr	Particle size multiplier, k	0.053	3	For FSP, AP-42, section 13.2.4, 11/06 ed.
		Moisture content, M	0.000	%	Assume as the same as land-based CBP
		Mean wind speed, U	4.9	m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	2.40E-04	kg/Mg	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
					(AP-42, section 13.2.4, 11/06 ed.)
			0.01	kg/hr (Concrete)	
		Mitigation efficiency	99	%	Fully covered and handling with water spraying system (From engineer)
		, and a second			, , , , , , , , , , , , , , , , , , ,
		No. of operation hours		hr	Assume worst case
		Emission height	10	m	From engineer
		Emission Rate	2 64E-05	g/s (mitigated) (Concrete)	
loating Concrete	Cement Silos	Density		Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
Cement / PFA /					and-blank-asphalt"
SF Silos)	F-EP2	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		Cement silo capacity (Each silo)	110	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 4 silos)		tons/hr (Concrete)	From engineer: 7.33 ton/hr = 4 silos * (110 ton / (2.5 days * 24 h))
		121 1		m3/hr (Concrete)	For concrete density: 2.24 tons/m3
				, ,	
		No. of operation hours	24	hr	Assume worst case
		No. of small cement silos	4	ł	From engineer
		Emission height Emission Rate (Total 4 silos)	6 275 06	m 6 g/s (mitigated) (Concrete)	From engineer
		Ellission hate (Total 4 Silos)	0.37E-00	g/s (miligated) (Concrete)	
	PFA Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
			_		and-blank-asphalt"
	F-EP3	FSP emission factor (0.14)	/	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		PFA silo capacity (Each silo)	90	tons	From engineer
		Refill frequency	2	days	From engineer
		Dust exhaust flow rate (Total 2 silos)	3.75	tons/hr (Concrete)	From engineer: 3.75 ton/hr = 2 silos * (90 ton / (2 days * 24 h))
			1.7	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of an audient become		J	A
		No. of operation hours No. of PFA silos	24	hr	Assume worst case From engineer
		Emission height		- ) m	From engineer
		Emission Rate (Total 2 silos)		g/s (mitigated) (Concrete)	Train ongmoon
		(		3-1 ( -3, (,	
	CSF Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-coma and-blank-asphalt"
	F-EP4	FSP emission factor (0.14)	7	7 mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
	1 21 4	To difficulty (0.14)	1	mg/mo	Means for Cement Works (Concrete Batching Plant), EPD
			1		, , , , , , , , , , , , , , , , , , ,
		CSF silo capacity (Each silo)	30	tons	From engineer
		Refill frequency	1 25	days	From engineer
		Dust exhaust flow rate (Total 2 silos)		tons/hr (Concrete) m3/hr (Concrete)	From engineer: 0.5 ton/hr = 2 silos * (30 ton / (5 days * 24 h)) For concrete density: 2.24 tons/m3
			0.2	Tillo/ill (Colliciate)	i or conorde density. 2.24 tons/mo
		No. of operation hours	24	l hr	Assume worst case
		No. of CSF silos	2		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 2 silos)	4.34E-07	g/s (mitigated) (Concrete)	
			1		
oating Concrete	Mixer	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:	<u> </u>		_	"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
flixing Tower)			1		and-blank-asphalt"
	F-EP5	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
			1		Means for Cement Works (Concrete Batching Plant), EPD
		Dust exhaust flow rate (Total 2 mixers)	560	) tons/hr (Concrete)	From engineer: 280 ton/hr * 2 mixers
		Dust exhibits how rate (Total 2 Hilkers)	360	(Concrete)	Trom origineer. 200 torym 2 mixers
			250.0	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
				,,	,
		No. of operation hours	24	l hr	Assume worst case
		The state of the s		2	From engineer
		No. of mixers	-	,	
		No. of mixers Emission height Emission Rate (Total 2 mixers)		m g/s (mitigated) (Concrete)	From engineer

Works Area Submarine pipeline	Sources Heavy construction	Percentage active area, p	Parameter 15.0 %	Remarks Assume % works area for heavy construction
Submarine cable	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day
		No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from
	Q4: S1, S2, S3	Emission Rate	4.67014E-06 g/m²/s (unmitigated) 3.87622E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	15 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.2129E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	16.9 %	Assume % works area for heavy construction
ICD works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, TRD2, TCPN-1, TCPN- 2, TCPN-3, EGC4, EGC5, EGC6, EGC7 Q4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2,	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
	NODE & TODA TODA TODA TODAL TODAL & TODAL & COORS FOOL	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.25715E-06 g/m²/s (unmitigated) 4.36344E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	16.9 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.36536E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
2				
Concurrent project)  T works (area	Heavy construction Source ID:	Percentage active area, p	34.3 %	Assume % works area for heavy construction Water suppression 12 times a day
ources)	Q1: SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, ITT1	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, ITT1	No. of working days per month, d	30 days	
	Q3: SCCP1, AES6, AES13, AES14, AES15, EM1, EM2, EGC3-1, EGC3-2, ITT1	No. of working hours per day, h	24 hour	AD40 Coation 40.000
	Q4: EM1, EM2, ITT1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.0673E-05 g/m²/s (unmitigated) 8.85857E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	34.3 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.77192E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	34.28 %	Assume % works area for heavy construction
T works (line ources)	Q1: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8, SCRE9, SCRE10, AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11, AES12	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
loadworks - at grade	Q2: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8,	No. of working days per month, d	30 days	Courses Final Report
	Q3: SCRE1, SCRE2, SCRE3, SCRE4, SCRE5, SCRE6, SCRE7, SCRE8,	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	0.000128076 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate 12m.
			1.06303E-05 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	34.28 %	AD42 Toble 11.0.4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.77192E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction	Percentage active area, p	10.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy
Boundary Crossing		Mitigation efficiency	87.5 %	construction Extracted from HKBCF EIA
acilities (BCF)	Q3: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4	No. of working days per month, d No. of working hours per day, h	26 days 12 hour	Extracted from HKBCF EIA Extracted from HKBCF EIA
	Q4: BCF-A, BCF-B, BCF-C1, BCF-C2, BCF-C3, BCF-C4	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	7.18483E-06 g/m²/s (unmitigated) 8.98104E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	10 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	8.086E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project	Heavy construction	Percentage active area in	10.0 %	Extracted from HKLR EIA accume 100/ works area for heavy
Concurrent project)	Heavy construction Source ID: Q1: LR-2, LR-3, LR-4, LR-5, LR-6, LR-7, LR-8, LR-9, LR-10, LR-11, LR-12,	Percentage active area, p		Extracted from HKLR EIA, assume 10% works area for heavy construction
	LR-13, LR-14	Mitigation efficiency  No. of working days per month, d	87.5 % 26 days	Extracted from HKLR EIA Extracted from HKLR EIA
	Q3: Q4:	No. of working days per month, d No. of working hours per day, h	26 days 12 hour	Extracted from HKLR EIA Extracted from HKLR EIA AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	7.18483E-06 g/m²/s (unmitigated) 8.98104E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	10 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
			Ì	Construction Operations, 1999
		Emission Rate	8.086E-08 g/m²/s	=0.85*0.3*100000/(10000*365*24*60*60)*p/100

Third Runway Wor	etails of Dust Emission Sources for Annual RSP Asse k Areas			
Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID:	Percentage active area, p	0.1 %	
Formation	For 24hrs activities:			Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2:			Sources Final Report
	Q3:	No. of working days per month, d	30 days	
	Q4: 1_03-1, 1_03-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_04-1,	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
	2_04-2, 2_06-1, 2_06-2, 2_06-3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.8559E-08 g/m²/s (unmitigated) 2.3704E-09 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	7.41717E-10 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100
				, , , , , , , , , , , , , , , , , , ,
Submarine pipeline	Heavy construction	Percentage active area, p	22.5 %	Assume % works area for heavy construction
Submarine cable	Source ID: Q1: S1, S2, S3	Mitigation efficiency	91.7 %	Water suppression 12 times a day
	Q2: S1, S2, S3 Q3: S1, S2, S3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
	Q4:	Emission Rate	7.00521E-06 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
		Limosion Hate	5.81432E-07 g/m²/s (unmitigated)	(10000 α 11 00 00) μ/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	22.5 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		, ,		Construction Operations, 1999
		Emission Rate	1.81935E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	16.0 %	Assume % works area for heavy construction
NCD works	Source ID: Q1: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-	No. of working days per month, d	30 days	Source Control of the
	Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	No. of working hours per day, h	24 hour	
	Q4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.9862E-06 g/m²/s (unmitigated) 4.13854E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	16.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.29498E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	35.9 %	Assume % works area for heavy construction
ITT works (area sources)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
,	Q1: AES6, EM1, EM2, ITT1 Q2: AES6, EM1, EM2, ITT1	No. of working days per month, d	30 days	Sources Final Report
	Q3: AES6, EM1, EM2, ITT1 Q4: AES6, EM1, EM2, ITT1	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.11861E-05 g/m²/s (unmitigated) 9.28444E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	35.9 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.90518E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	35.93 %	Assume % works area for heavy construction
ITT works (line sources)	Q1: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Roadworks - at grade	AES11, AES12 Q2: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10,			Sources Final Report
9.440	AES11, AES12 Q3: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10,	No. of working days per month, d  No. of working hours per day, h	30 days 24 hour	
	AES11, AES12 Q4: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11, AES12	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Data	0.000124000	Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	0.000134233 g/m²/s (unmitigated)	by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.11413E-05 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	35.93 %	ADVO TILL 415 1
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.90518E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

T2 Expansion -	Heavy construction	Percentage active area, p	1.0 %	Account of weather are for the control of
Advanced Works Temporary Car Park NCD and	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the USEPA's Control of Open Fugitive Dust
emporary Road	Q1: TRD1, TRD3, TRD4, TRD5, TRD6 Q2: TRD1, TRD5, TRD6	No. of working days per month, d	30 days	Sources Final Report
iversion)	Q3: TRD1, TRD5, TRD6 Q4:	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	3.22126E-07 g/m²/s (unmitigated) 2.67364E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	8.36605E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	10.0 %	Extracted from HKBCF EIA, assume 10% works area for heav
oundary Crossing	Q1: BCF-C4	Mitigation efficiency	87.5 %	construction Extracted from HKBCF EIA
facilities (BCF)	Q2: BCF-C4	No. of working days per month, d	26 days	Extracted from HKBCF EIA
. ,	Q3: BCF-C4 Q4: BCF-C4	No. of working hours per day, h	12 hour	Extracted from HKBCF EIA AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	7.18483E-06 g/m²/s (unmitigated) 8.98104E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	10 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	8.086E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Other airport acilities related	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
vorks	0.407.4	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: ABT1-1 Q2: ABT1-1 Q3: ABT1-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: ABT1-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	1.6071E-06 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.3339E-07 g/m²/s (mitigated)	, , , , , , , , , , , , , , , , , , ,
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	AD40 Table 44.0.4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	4.17387E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks orresponding to	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
Other airport acilities related	CALABITA O ABITA C	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
vorks	Q1: ABT1-2, ABT1-3 Q2: ABT1-2, ABT1-3 Q3: ABT1-2, ABT1-3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: ABT1-2, ABT1-3 Q4: ABT1-2, ABT1-3	No. of working nours per day, n  Emission Factor (0.3)	24 nour  0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fr
		LIIIISSIUII FAULUI (U.S)	0.007 ivig/nectale/month of activity	Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission ra
		Emission Rate	1.92852E-05 g/m²/s (unmitigated)	by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.60068E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions for Construction Operations, 1999
		Emission Rate	4.17387E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Work Areas  Works Area Sources Parameter  Permeter					
Works Area Third Runway Land Formation	Sources Heavy construction Source ID:	Percentage active area, p	Parameter 1.4 %	Remarks  Assume % works area for heavy construction	
. Simulon	For 24hrs activities:  Q1: 1_01, 1_03-1, 1_03-2, 1_04, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 1_09-1, 1_09-2, 2_03B, 2_04-1, 2_04-2, 2_05B-1, 2_05B-2,		01 7 %	Assume % works area for heavy construction  Water suppression 12 times a day  Equation (3-2) in the LISEPA's Control of Open Fugitive Duct	
	2_06-1, 2_06-2, 2_06-3, 2_07B, 2_08, 2_09-1, 2_09-2  Q2: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 1_09-1, 1_09-2, 2_03B, 2_05B-1, 2_05B-2,	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	1_084-2; 1_086-1; 1_086-2; 1_09-1; 1_09-2; 2_088; 2_096-1; 2_096-2; 3_01A-1; 3_01A-2; 3_01A-3; 3_01A-2; 3_01A-2	No. of working days per month, d	30 days		
	1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 3_01A-1, 3_01A-2, 3_01A-3	No. of working hours per day, h	24 hour		
	Q4: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08	Emission Factor (0.3)	0.807 Mg/hectare/month of activity 4.45002E-07 g/m²/s (unmitigated)	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100	
			3.69352E-08 g/m²/s (mitigated)	2.55 3.5 1550000 (10000 00 11 00 00) p/100	
	For night-time activities:	Percentage active area, p	1.4 %		
	Q1: Q2: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3	Mitigation efficiency	91.7 %		
	Q3: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-	No. of working days per month, d	30 days		
	2 Q4: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-	No. of working hours per day, h	12 (night) hour	AP42. Section 13.2.3.3	
	2, 3, 02A-1, 3, 02A-2, 3, 02A-3	Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity  8.90004E-07 g/m²/s (unmitigated)  7.38703E-08 g/m²/s (mitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100	
	Wind Erosion	Percentage active area, p	1.4 %		
	Source ID: (as above)	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from	
		Emission Rate	1.15573E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100	
Third Runway	Wind Erosion				
Wind Erosion (only)	Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012 AP42, Table 11.9-4	
	u:	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, 1able 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999	
	Q2: Q3:	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100	
Third Runway Other	Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3  Heavy construction Source ID:	Percentage active area, p	0.0 %	Assume % works area for heavy construction	
Construction Works/Facilities on newly formed land		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust	
, ,ou land	Q1: 4_04, 4_05-1 Q2: 4_04, 4_05-1	No. of working days per month, d	30 days	Sources Final Report	
	Q3: 4_04, 4_05-1 Q4: 4_04, 4_05-1	No. of working hours per day, h Emission Factor (0.3)	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from	
		Emission Rate	8.58968E-09 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100	
	Wind Exercise		7.12944E-10 g/m²/s (mitigated)		
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.0 %	AP42, Table 11.9-4	
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999	
		Emission Rate	2.23086E-10 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100	
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	3.1 %	Assume % works area for heavy construction	
NCD works	Q1: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGG3-1, EGG2-2, EGG4, EGG5, EGG6, EGG7 Q2: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NC	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7 Q3: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-	No. of working days per month, d	30 days		
	3, TRD2, TRD3, TRD4, TCPN-1, TCPN-2, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7 Q4: NCD1-1, NCD1-2, NCD1-3, NCD1-4, NCD1-5, NCD2-1, NCD2-2, NCD2-	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3	
	(44, No.)1-1, No.)1-2, No.)1-3, No.)1-4, No.)1-3, No.)2-1, No.)2-2, No.)2-3, TRD2, TRD3, TRD4, TRD4, TCPN-3, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2, EGC4, EGC5, EGC6, EGC7	Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity  9.65381E-07 g/m²/s (unmitigated)  8.01266E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3  USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999  =2.69*0.3*1000000/(10000*d*h*60*60)*p/100	
	Wind Erosion	Percentage active area, p	3.1 %		
	Source ID: (as above)	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from	
		Emission Rate	2.50723E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100	
(Concurrent project)	Heavy construction	Percentage active area, p	7.2 %	I	
ITT works (area	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day	
sources)	Q1: AES6 Q2:	Mitigation efficiency  No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	Q3: Q4:	No. of working days per month, d	30 days 24 hour	AP42, Section 13.2.3.3	
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999	
		Emission Rate	2.2403E-06 g/m²/s (unmitigated) 1.85945E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100	
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.2 %	ABMO Table 44 C d	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999	
		Emission Rate	5.81837E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100	
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	7.20 %	Assume % works area for heavy construction	
ITT works (line sources)	Q1: AES1, AES2, AES3, AES4, AES5, AES7, AES8, AES9, AES10, AES11,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust	
Roadworks - at grade	AES12 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from	
		Emission Pato	2 68836F_05_a/m2/a /miticate d\	Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate by 12m	
		Emission Rate	2.68836E-05 g/m²/s (unmitigated) 2.23134E-06 g/m²/s (mitigated)	by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12	
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.20 %		
	10. (da douve)	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from	
		Emission Rate	5.81837E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100	

South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	30.48 %	Assume % works area for heavy construction
rade	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: CA1, CA2 Q3: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Solitor   Markepoli
	Q4: CA1, CA2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fror Construction Operations. 1999
		Emission Rate	0.000113869 g/m²/s (unmitigated) 9.45115E-06 g/m²/s (mitigated)	Assume road width equals 12m, therefore multiply emission ra by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	30.48 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.46445E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
outh Cargo oadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	30.5 %	Assume % works area for heavy construction
Jaaworks - Vladuct		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d	30 days	Sources Final Report
	Q3: CA3, CA4, CA5, CA6, CA7, CA8 Q4: CA3, CA4, CA5, CA6, CA7, CA8	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	1.18614E-05 g/m²/s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m p width + 50% extra for works)
			9.84495E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion	Percentage active area, p	30.5 %	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 2.46445E-07 g/m²/s	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
		Linission rate	2.40443E-07 g/III-78	=0.85 0.5 1000000/(10000 365 24 00 00) p/100
padworks Road 6 - aduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	20.7 %	Assume % works area for heavy construction
ption 3)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	O1: O2: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working days per month, d	30 days	Sources Final Report
	O3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34,	No. of working hours per day, h	24 hour	
	RF35, RF36, RF37  Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	8.04473E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m width + 50% extra for works)
			6.67713E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	20.7 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.67146E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
ew APM	Heavy construction	Percentage active area, p	0.7 %	Assume % works area for heavy construction
terchange Station AIS)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: AIS1, AIS2 Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	2.24013E-07 g/m²/s (unmitigated) 1.8593E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.72 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	5.81792E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
HS and APM	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: BAT1, BAT2, NAB3, NAB4 Q4: BAT1, BAT2, NAB3, NAB4	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	5.42931E-08 g/m <sup>2</sup> /s (unmitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100

Wind Erosion Source ID: (as above)

0.17 %

0.255 Mg/hectare/year

AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85\*0.3\*1000000/(10000\*365\*24\*60\*60)\*p/100

Percentage active area, p

Emission Factor (0.3)

2 Expansion Area	Heavy construction	Percentage active area, p	0.0 %	Assume % works area for heavy construction
•	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:			Sources Final Report
	Q2: T2E-1, T2E-2, T2E-3, BHS1, BHS2, NAB1, NAB2, SAB, NAD1 Q4: T2E-1, T2E-2, T2E-3, AIS1, AIS2, BHS1, BHS2, NAB1, NAB2, SAB,	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
	NAD1, EVA1, EVA2, EVA3, EVA4, EVA5, EVA6, EVA7, EVA8, EVA9	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions for Construction Operations, 1999
		Emission Rate	1.44149E-08 g/m²/s (unmitigated) 1.19644E-09 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.0 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	3.74376E-10 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Expansion -	Heavy construction Source ID:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
hicular Access VA)	ou.	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q1: Q2: Q3: EVA1, EVA2, EVA3, EVA4, EVA5, EVA6, EVA7, EVA8, EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	6.20924E-07 g/m²/s (unmitigated) 5.15367E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fr Construction Operations, 1999
		Emission Rate	1.61263E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
her airport cilities related	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
orks	Q1: ABT1-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: ABT1-1 Q3: ABT1-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	· ·
	Q4: ABT1-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.36713E-07 g/m²/s (unmitigated) 3.62472E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fr Construction Operations, 1999
		Emission Rate	1.1342E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
adworks rresponding to	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
her airport cilities related		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
orks	Q1: ABT1-2, ABT1-3 Q2: ABT1-2, ABT1-3 Q3: ABT1-2, ABT1-3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: ABT1-2, ABT1-3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fr Construction Operations, 1999
		Emission Rate	5.24056E-06 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission by 12m.
			4.34966E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions for Construction Operations, 1999
	<u> </u>	Emission Rate	1.1342E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	6.8 %	Assume % works area for heavy construction
	Q1: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_08B-2, 2_02B-1, 2_02B-2, 2_03A, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 1_02-1, 1_02-2, 1_05, 1_06-1, 1_06-2, 2_02B-1, 2_02B-2, 2_03A, 2_05A, 2_08, 3_02B	No. of working days per month, d	30 days	
	Q3: 1_06-1, 1_06-2, 2_01, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2	No. of working hours per day, h	24 hour	
	Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05B-1, 2_05B-2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.10499E-06 g/m²/s (unmitigated) 1.74714E-07 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities: Q1: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1,	Percentage active area, p	6.8 %	
	2_09-2, 3_02A-1, 3_02A-2, 3_02A-3	Mitigation efficiency	91.7 %	
	Q2: 1_09-1, 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_01A-1, 3_01A-2, 3_01A-3, 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	Q3: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 2_09-2, 3_01A-1, 3_01A-2, 3_01A-3, 3_02A-1, 3_02A-2, 3_02A-3	No. of working hours per day, h	12 (night) hour	
	Q4: 1_09-1, 1_09-2, 2_09-1, 2_09-2, 3_02A-1, 3_02A-2, 3_02A-3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.20998E-06 g/m²/s (unmitigated) 3.49428E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	6.8 %	AD40 Table 11.0.4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.46694E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
hird Runway	Wind Erosion Source ID:		20.0.0	Based on maximum fines content of 20% in reclamation fill
Vind Erosion (only)	Q1:1 07-2,1 08A-2,2 03B,2 07B,2 08,3 01A-1,3 01A-2,3 01A-3	Percentage active area, p	20.0 %	material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	U1. 1_0/-2, 1_00A-2, 2_03B, 2_07B, 2_00, 3_01A-1, 3_01A-2, 3_01A-3	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Q2: 1_01, 1_03-1, 1_03-2, 1_04, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B Q3: 1_09-1, 1_09-2, 2_08, 3_02B Q4: 2_04-1, 2_04-2, 2_05A, 2_06-1, 2_06-2, 2_06-3, 2_08, 3_02B	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other		Percentage active area, p	2.4 %	Assume % works area for heavy construction
Construction  Works/Facilities on newly formed land		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 1_07-1, 1_08A-1, 1_08B-1, 4_04, 4_05-1 Q2: 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 4_04, 4_05-1	No. of working days per month, d	30 days	Sources Final Report
	Q3: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_07-1, 1_07-2, 1_08A-1, 1_08A-2, 1_08B-1, 1_08B-2, 2_07A-1, 2_07A-2, 2_07B, 4_04, 4_05-1	No. of working hours per day, h	24 hour	
	14_00-1 Q4:1_01,1_02-1,1_02-2,1_03-1,1_03-2,1_04,1_05,1_06-1,1_06-2, 1_07-1,1_07-2,1_08A-1,1_08A-2,1_08B-1,1_08B-2,2_07A-1,2_07A- 2,2_07B,3_01A-1,3_01A-2,3_01A-3,4_04,4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	7.43415E-07 g/m²/s (unmitigated) 6.17034E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.4 %	AD42 Table 11.0.4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 1.93075E-08 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	U		·	
Concurrent project) NCD works	Heavy construction Source ID:	Percentage active area, p	26.3 %	Assume % works area for heavy construction Water suppression 12 times a day
NOD WOIKS	Q1: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2, EGC3-1, EGC3-2 Q3: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2,	No. of working days per month, d	30 days	
	EGC3-1, EGC3-2 Q4: NCD2-1, NCD2-2, NCD2-3, TRD3, TRD4, SCCP1, EGC1, EGC2,	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
	EGC3-1, EGC3-2	Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity  8.18814E-06 g/m²/s (unmitigated)  6.79615E-07 g/m²/s (mitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area in	6.79615E-07 g/m²/s (mitigated)	
	Source ID: (as above)	Percentage active area, p		AP42, Table 11.9-4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 2.12657E-07 g/m²/s	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.15 De	etails of Dust Emission Sources for Annual RSP Assessi	ment at Year 2018		
Midfield development (MD)	Heavy construction Source ID:	Percentage active area, p	0.7 %	Assume % works area for heavy construction
development (MD)	Q1: MD	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: MD Q3: MD	No. of working days per month, d	30 days	Sources i mai rieport
	Q4: MD	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 2.1273E-07 g/m²/s (unmitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.76566E-08 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.7 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.52489E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	43.24 %	Assume % works area for heavy construction
grade		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: CA1, CA2 Q2: CA1, CA2	No. of working days per month, d	30 days	Sources Final Report
	Q3: CA1, CA2 Q4: CA1, CA2	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	0.000161535 g/m²/s (unmitigated)	by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.34074E-05 g/m²/s (mitigated)	, , , , , , , , , , , , , , , , , , , ,
	Wind Erosion Source ID: (as above)	Percentage active area, p	43.24 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.49607E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
		Zimosion riato	0.1000/2 0/ g/m/c	-5.55 6.5 1000000 (10000 000 2 1 00 00) p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	43.2 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: CA3, CA4, CA5, CA6, CA7, CA8	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: CA3, CA4, CA5, CA6, CA7, CA8 Q3: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d	30 days	Sources I mai neport
	Q4: CA3, CA4, CA5, CA6, CA7, CA8	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	1.68265E-05 g/m²/s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)  '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.3966E-06 g/m²/s (mitigated)	=2.09 0.3 1000000/(10000 30 11 00 00) p/100 (3/30) 7.3
	Wind Erosion Source ID: (as above)	Percentage active area, p	43.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.49607E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	29.3 %	Assume % works area for heavy construction
Option 3)	O1: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34,	No. of working days per month, d	30 days	
	RF35, RF36, RF37  Q3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF29	No. of working hours per day, h	24 hour	
	RF35, RF36, RF37 Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	0 p		
	RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.14122E-05 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile
			9.47215E-07 g/m²/s (mitigated)	width + 50% extra for works) '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion	Percentage active area, p	29.3 %	
	Source ID: (as above)	71		AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.37113E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction	Percentage active area, p	8.1 %	Assume % works area for heavy construction
Interchange Station (AIS)	Source ID:			Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: AIS1, AIS2, EVA6, EVA7, EVA8 Q3: AIS1, AIS2, EVA6, EVA7, EVA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: AIS1, AIS2, EVA6, EVA7, EVA8	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.51202E-06 g/m²/s (unmitigated) 2.08497E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Porcentage active are -		
	Source ID: (as above)	Percentage active area, p	8.07 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	6.52405E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	J			

Appendix 5.2.15 De	etails of Dust Emission Sources for Annual RSP A	ssessment at Year 2018		
Baggage Hall -	Heavy construction Source ID:	Percentage active area, p	10.7 %	Assume % works area for heavy construction
Baggage Handling System (BHS)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: BHS1, BHS2, EVA9 Q3: BHS1, BHS2, EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Courses I mai risport
	Q4: BHS1, BHS2, EVA9	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		, ,	,	Construction Operations, 1999 =2.69*0.3*1000000/(10000'd*h*60*60)*p/100
	Wind Erosion	Emission Rate	3.33502E-06 g/m²/s (unmitigated) 2.76807E-07 g/m²/s (mitigated)	=2.69°0.3°1000000/(10000°a°n°60°60)°p/100
	Source ID: (as above)	Percentage active area, p	10.71 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	8.66151E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: NAD1, NAD2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAD1, NAD2 Q3: NAD1, NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: NAD1, NAD2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.29094E-07 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		1.07148E-08 g/m²/s (mitigated)	
	Source ID: (as above) Q1: NAD1, NAD2	Percentage active area, p	0.41 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.35276E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
BHS and APM tunnel	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: BAT1, BAT2, NAB3, NAB4 Q2: BAT1, BAT2, NAB3, NAB4	No. of working days per month, d	30 days	Sources Final Report
	Q3: BAT1, BAT2, NAB3, NAB4 Q4: BAT1, BAT2, NAB3, NAB4	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.52021E-07 g/m²/s (unmitigated) 1.26177E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
	Q1: BAT1, BAT2, NAB3, NAB4	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.94819E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
	Q1: T2E-1, T2E-2, T2E-3, AIS1, AIS2, BHS2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: T2E-3 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Courses I mai risport
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.46382E-08 g/m²/s (unmitigated) 4.53497E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.41903E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion - Car	Heavy construction	Percentage active area, p	0.2 %	Assume % works area for heavy construction
Park North (North Annex Building)	Source ID:			Water suppression 12 times a day
	Q1: NAB1, NAB2, BHS1	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAB1, NAB2 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AD40 0 11 10000
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.86999E-08 g/m²/s (unmitigated) 4.04209E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	AD40 T-bl- 44 C 4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.2648E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion - Lounge Limo (South	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
Lounge Limo (South Annex Building)	`  	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: SAB Q2: SAB	,		Sources Final Report
	Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42 Section 12.2.2.2
	Q <del>.</del>	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.69905E-08 g/m²/s (unmitigated) 4.73021E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	
	Wind Erosion Source ID: (as above)			AP42, Table 11.9-4
		Percentage active area, p  Emission Factor (0.3)  Emission Rate	0.2 % 0.255 Mg/hectare/year 1.48012E-09 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100

Works Area		T	Daramotor	Damanke
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 6.6 %	Remarks
Formation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	Q1: 2_01, 2_02A	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2: 2_01, 2_02A, 2_05A	No. of working days per month, d	30 days	Sources Final Report
	Q3: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_05A	No. of working hours per day, h	24 hour	
	Q4: 2_02B-1, 2_02B-2, 2_03A			AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.06269E-06 g/m²/s (unmitigated) 1.71203E-07 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	6.6 %	
	Q1: 1_09-1, 1_09-2, 2_06-1, 2_06-2, 2_06-3, 3_02A-1, 3_02A-2, 3_02A-3	Mitigation efficiency	91.7 %	
	Q2: 1_09-2, 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	Q3: 2_04-1, 2_04-2, 2_06-1, 2_06-2, 2_06-3, 2_09-1, 3_02A-1, 3_02A-2, 3_02A 3	No. of working hours per day, h	12 (night) hour	
	Q4: 2_09-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.12537E-06 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
			3.42406E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	6.6 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.35708E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Director	Wind Erosion			
Third Runway Wind Erosion (only)	Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 2_02B-1, 2_03A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2,			AP42, Table 11.9-4
	2_08, 2_09-1, 2_09-2, 3_02B	Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Q2: 2_02B-1, 2_03A, 2_03B, 2_05B-1, 2_05B-2, 3_02B Q3: 1_09-2, 3_02B	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Q4: 3_02A-1, 3_02A-2, 3_02A-3, 3_02B Heavy construction	Percentage active area, p	1.8 %	Assume % works area for heavy construction
Construction Works/Facilities on	Source ID: Q1: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_07-			Water suppression 12 times a day
newly formed land	1, 1_08A-1, 1_08B-1, 2_02B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 4_04	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_09-1, 2_02B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2, 4_04	No. of working days per month, d	30 days	·
	Q3: 1_01, 1_02-1, 1_02-2, 1_03-1, 1_03-2, 1_04, 1_05, 1_06-1, 1_06-2, 1_09-1, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2, 4_04	No. of working hours per day, h	24 hour	
	Q4: 1_09-1, 1_09-2, 2_01, 2_02A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2,	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
	4_04	Emission Rate	5.75391E-07 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
		Emission rate	4.77575E-08 g/m²/s (mitigated)	=2.89 0.3 1000000/(10000 d ii 60 60) p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.8 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.49437E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
		Emission rate	1.40407 E 00 g/m75	20.00 0.0 10000000(10000 000 24 00 00) p/100
Midfield development (MD)	Heavy construction Source ID:	Percentage active area, p	1.5 %	Assume % works area for heavy construction
development (MB)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: MD Q2: MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: MD Q4: MD	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations. 1999
		Emission Rate	4.73069E-07 g/m²/s (unmitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Parameter ::	3.92648E-08 g/m²/s (mitigated)	
	Source ID: (as above)	Percentage active area, p	1.5 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.22863E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area, p	11.16 %	Assume % works area for heavy construction
Roadworks - at grade	Source ID:			Water suppression 12 times a day
	Q1: CA1, CA2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: CA1, CA2 Q3: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: CA1, CA2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.16979E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			3.46092E-06 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion	_		
	Source ID: (as above)	Percentage active area, p	11.16 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	9.0246E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.15 De	tails of Dust Emission Sources for Annual RSP Assessmen	t at Year 2019		
South Cargo	Heavy construction Source ID:	Percentage active area, p	11.2 %	Assume % works area for heavy construction
Roadworks - viaduct		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: CA3, CA4, CA5, CA6, CA7, CA8 Q2: CA3, CA4, CA5, CA6, CA7, CA8 Q3: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: CA3, CA4, CA5, CA6, CA7, CA8	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.34353E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			3.60513E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	11.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	9.0246E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	7.6 %	Assume % works area for heavy construction
Option 3)	Q1: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	No. of working days per month, d	30 days	
	Q3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37  Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12,	No. of working hours per day, h	24 hour	
	Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore
		Emission Rate	2.9459E-06 g/m²/s (unmitigated)	total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			2.4451E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.6 %	AP42, Table 11.9-4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 6.12074E-08 g/m²/s	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Interchange Station	Heavy construction Source ID:	Percentage active area, p	2.6 %	Assume % works area for heavy construction Water suppression 12 times a day
(AIS)	Q1: AIS1, AIS2, EVA6, EVA7, EVA8 Q2:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Wind Engine	Emission Rate	8.20748E-07 g/m²/s (unmitigated) 6.81221E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: AIS1, AIS2, EVA6, EVA7, EVA8	Percentage active area, p	2.64 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.1316E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Baggage Hall - Baggage Handling	Heavy construction Source ID:	Percentage active area, p	7.4 %	Assume % works area for heavy construction
System (BHS)	O1: BUC1 BUC2 EVAN	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: BHS1, BHS2, EVA9 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: BHS1, BHS2, EVA9	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.2904E-06 g/m²/s (unmitigated) 1.90103E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BHS1, BHS2, EVA9	Percentage active area, p	7.36 %	AP42, Table 11.9-4
	5, 5, 5	Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.94849E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	Q1: NAD1, NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAD1, NAD2 Q3: NAD1, NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources i mai ricport
	Q4: NAD2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.29094E-07 g/m²/s (unmitigated) 1.07148E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: NAD1, NAD2	Percentage active area, p	0.41 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.35276E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

HS and APM	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
nnel	Q1: BAT1, BAT2, NAB3, NAB4	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: BAT1, BAT2, NAB3, NAB4	No. of working days per month, d	30 days	Sources i mai rieport
	Q3: BAT1, BAT2, NAB3, NAB4	No. of working hours per day, h	24 hour	
	Q4: BAT1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.52021E-07 g/m²/s (unmitigated) 1.26177E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BAT1, BAT2, NAB3, NAB4	Percentage active area, p	0.49 %	ADAO Tabladdo d
	QT. DATT, DATZ, NADS, NADS	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.94819E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.8 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	Cources i mai rieport
	Q3:	No. of working hours per day, h	24 hour	
	Q4: AIS1, AIS2, NAB1, NAB2, NAB3, NAB4, BAT2, NAD1, EVA6, EVA7, EVA8	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.4034E-07 g/m²/s (unmitigated) 1.99482E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.8 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	6.24196E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Worl	K Areas			
Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
	Ω1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	Course Final Report
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.95947E-08 g/m²/s (unmitigated) 1.62636E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:  Q1:	Percentage active area, p	0.1 %	
		Mitigation efficiency	91.7 %	
	Q2: 3_02A-1, 3_02A-2, 3_02A-3	No. of working days per month, d	30 days	
	Q3: 3_02A-1, 3_02A-2, 3_02A-3 Q4:	No. of working hours per day, h	12 (night) hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.91894E-08 g/m²/s (unmitigated) 3.25272E-09 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.08901E-10 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			
Wind Erosion (only)	Source ID:	Percentage active area, p	20.0 %	Based on maximum fines content of 20% in reclamation fill material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Q2: 2_09-1, 3_02B Q3: 2_09-1, 3_02B Q4: 3_02A-1, 3_02B	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	1.3 %	Assume % works area for heavy construction
Works/Facilities on newly formed land	Q1: 1_09-1, 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_06-1, 2_06-2, 2_06-3, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	O2: 1, 09-1, 2, 01, 2, 02A, 2, 02B-1, 2, 02B-2, 2, 03A, 2, 03B, 2, 05A, 2, 05B-1, 2, 05B-2, 2, 06-1, 2, 06-2, 2, 06-3, 2, 07A-1, 2, 07A-2, 2, 07B, 2, 08, 2, 09-2  O3: 1, 09-1, 2, 01, 2, 02A, 2, 02B-1, 2, 02B-2, 2, 03A, 2, 03B, 2, 05A,	No. of working days per month, d	30 days	
	2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_08, 2_09-2	No. of working hours per day, h	24 hour	
	Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_09-1, 3_02A-2, 3_02A-3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.10099E-07 g/m²/s (unmitigated) 3.40382E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.3 %	AP42 Table 11.0.4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.06508E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Midfield	Heavy construction Source ID:	Percentage active area, p	0.7 %	Assume % works area for heavy construction
development (MD)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: MD Q2: MD Q3: MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: MD	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.05772E-07 g/m²/s (unmitigated) 1.70791E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.7 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999

Western Support	Heavy construction	Percentage active area, p	55.2 %	
Area Emergency	Source ID:	Percentage active area, p	35.2 %	Assume % works area for heavy construction
Access Road (flyover)	Q1: WSA1, WSA2, WSA3, WSA4	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: WSA1, WSA2, WSA3, WSA4 Q3: WSA1, WSA2, WSA3, WSA4	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: WSA1, WSA2, WSA3, WSA4	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	2.14727E-05 g/m²/s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)  '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.78223E-06 g/m²/s (mitigated)	-2.03 0.3 1000000/(10000 30 11 00 00) p/100 (0/30) 7.3
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.46141E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Western Support Area Emergency	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Access Road (at grade)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: WSA5 Q2: WSA5 Q3: WSA5	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: WSA5	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	0.000206138 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.71095E-05 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.46141E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction	Percentage active area, p	1.9 %	Assume % works area for heavy construction
Interchange Station (AIS)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: AIS1, AIS2, EVA6, EVA7, EVA8 Q2: AIS1, AIS2, EVA6, EVA7, EVA8 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.93756E-07 g/m²/s (unmitigated) 4.92818E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	1.91 %	
	Source ID: (as above) Q1: AIS1, AIS2, EVA6, EVA7, EVA8	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.54207E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Baggage Hall -	Heavy construction	Percentage active area, p	3.0 %	
Baggage Handling System (BHS)	Source ID:			Assume % works area for heavy construction  Water suppression 12 times a day  Equation (2.3) in the USERA's Control of Open Funiting Puret
	Q1: BHS1, BHS2, EVA9 Q2: BHS1, BHS2, EVA9	Mitigation efficiency  No. of working days per month, d	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: BHS1, BHS2, EVA9 Q3: Q4:	No. of working days per month, d	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	9.39246E-07 g/m²/s (unmitigated) 7.79574E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: BHS1, BHS2, EVA9	Percentage active area, p	3.02 %	AP42 Table 11 9 4
	Q1. 01 101, 10102, EVM3	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.43935E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
		Linision Hate	2.70000E 00 g/III /3	

New APM Depot	Heavy construction	Percentage active area, p	0.3 %	Assuma % works area for heavy construction
(NAD)	Source ID:	r or corning a moure areas, p		Assume % works area for heavy construction
( )	Q1: NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: NAD1, NAD2	No. of working days per month, d	30 days	
	Q3: NAD1, NAD2	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	9.68208E-08 g/m²/s (unmitigated) 8.03613E-09 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: NAD2	Percentage active area, p	0.31 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.51457E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
BHS and APM tunnel	Heavy construction Source ID:	Percentage active area, p	0.2 %	Assume % works area for heavy construction
lturiner	Q1: BAT1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: BAT1, BAT2, NAB3, NAB4 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	· ·
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	6.51517E-08 g/m²/s (unmitigated) 5.40759E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.21 %	
	Q1: BAT1	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.69208E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction	Percentage active area, p	0.2 %	Assume % works area for heavy construction
	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: NAB1, NAB2, NAB3, NAB4, BAT2, NAD1 Q2: NAB1, NAB2	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h  Emission Factor (0.3)	24 hour  0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.12952E-08 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
		Limbolott Hate	4.2575E-09 g/m²/s (mitigated)	-2.55 5.5 1000000/(10000 d 11 00 00) p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.2 %	ADVO TILL 44 0 4
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.33221E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Worl		T	Parameter	Damanica
Works Area Third Runway Land	Sources Heavy construction Source ID:	Percentage active area, p	0.9 %	Remarks
Formation	For 24hrs activities:			Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2:			Sources Final Report
	Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:3_01B-1,3_01B-2			AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.67288E-07 g/m²/s (unmitigated) 2.21849E-08 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.9 %	
	Cost to 12. (de day)	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	6.94183E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100
				, , , , , , , , , , , , , , , , , , ,
Third Runway	Wind Erosion Source ID:	Development and active even in	20.0.0/	Based on maximum fines content of 20% in reclamation fill
Wind Erosion (only)		Percentage active area, p	20.0 %	material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012
	Q1: 3_02A-1, 3_02B	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
	Q2: 3_02A-1, 3_02B	Emission Rate	1.6172E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Q3: 3_02A-1, 3_02B Q4: 3_02A-1, 3_02B		-	
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	0.6 %	Assume % works area for heavy construction
Works/Facilities on newly formed land	Q1: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1,	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 2_09-1, 3_02A-2, 3_02A-3 Q2: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_01-1,	No of working days per month d	30 dave	Sources Final Report
	2_U5B-2, 2_U7A-1, 2_U7A-2, 2_U7B, 3_U1A-1, 3_U1A-2, 3_U1A-3, 4_U1-1, 4_U1-2, 4_U1-3, 4_U5-1, 4_U1-2, 4_U1-3, 4_U5-1, 2_U5B-2, 2_U5B-2, 2_U5B, 2_U5B, 2_U5B, 2_U5B-1, 2_U5B-2, 2_U5B, 2_U	No. of working days per month, d	30 days	
	2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 3_01B-1, 3_01B-2, 4_01-1, 4_01-2, 4_01-3, 4_05-1	No. of working hours per day, h	24 hour	
	Q4: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_01-1, 4_01-2, 4_01-3, 4_03-1, 4_03-2, 4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
	4_01 2, 4_01 0, 4_00 1, 4_00 2, 4_00 1	Emission Rate	1.84274E-07 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.52947E-08 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.78584E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Airside tunnels (AT)	Heavy construction	Percentage active area, p	0.4 %	
	Source ID:	i orosmago donvo aroa, p	<b>0.1</b> / <b>0</b>	Assume % works area for heavy construction  Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: AT1, AT3 Q3: AT1, AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: AT1, AT2, AT3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.28853E-07 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.06948E-08 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.4 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.34649E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Midfield	Heavy construction	Percentage active area, p	0.6 %	
development (MD)	Source ID:	. Stochage active area, p	0.0 /0	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: MD Q3: MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	·
	Q4: MD	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.74857E-07 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.45132E-08 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.54129E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
On the O	Nous construction	Danasata (*	0.00.07	
South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	3.63 %	Assume % works area for heavy construction Water suppression 12 times a day
grade	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q1: Q2: Q3: CA1, CA2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Section 1 mai 1 report
	Q4: CA1, CA2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
			5.007 mg/neotale/month of activity	Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	1.35651E-05 g/m²/s (unmitigated)	Assume road width equals 12th, therefore multiply emission rate by 12m. =2.69°0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.1259E-06 g/m²/s (mitigated)	2.33 0.0 1000000/(10000 d ii 00 00) p/100 12
		1		
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.63 %	
		71		AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Percentage active area, p  Emission Factor (0.3)  Emission Rate	3.63 % 0.255 Mg/hectare/year 2.93586E-08 g/m²/s	,

South Cargo	Heavy construction Source ID:	Percentage active area, p	3.6 %	Assume % works area for heavy construction
Roadworks - viaduct	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: CA3, CA4, CA5, CA6, CA7, CA8	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	·
	Q4: CA3, CA4, CA5, CA6, CA7, CA8	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.41303E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pil width + 50% extra for works)  '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.17281E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.6 %	NO. 2 11 11 11 11 11 11 11 11 11 11 11 11 1
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.93586E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 -	Heavy construction Source ID:	Percentage active area, p	2.5 %	Assume % works area for heavy construction
Option 3)	Q1: Q2: Q3: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37 Q4: RF1, RF2, RF3, RF4, RF5, RF6, RF7, RF8, RF9, RF10, RF11, RF12, RF13, RF14, RF15, RF16, RF17, RF18, RF19, RF20, RF21, RF22, RF23, RF24, RF25, RF26, RF27, RF28, RF29, RF30, RF31, RF32, RF33, RF34, RF35, RF36, RF37	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
		No. of working days per month, d	30 days	Sources Final Report
		No. of working hours per day, h	24 hour	
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	9.58355E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pi width + 50% extra for works)
			7.95435E-08 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.5 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.99118E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Worl	n Aleas					
Works Area	Sources	_	Parameter	Remarks		
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.3 %	Assume % works area for heavy construction		
	Q1: 3_02B	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2:	No. of working days per month, d	30 days	· ·		
	Q3:	No. of working hours per day, h	24 hour			
	Q4: 3_02B	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from		
		Emission Rate	8.80231E-08 g/m²/s (unmitigated) 7.30591E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.3 %			
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fror Construction Operations, 1999		
		Emission Rate	2.28608E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100		
Third Runway	Wind Erosion Source ID:			Based on maximum fines content of 20% in reclamation fill		
Vind Erosion (only)		Percentage active area, p	20.0 %	material (Type C), Table 3.1, Working Paper No. 3 Fill Management (Deliverable D6.3) (rev. 01), Atkins, October 2012		
	Q1: 3_02A-1	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions for Construction Operations, 1999		
	Q2: 3_02A-1 Q3: 3_02B Q4:	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100		
hird Runway Other	Heavy construction Source ID:	Percentage active area, p	1.3 %	Assume % works area for heavy construction		
Vorks/Facilities on ewly formed land	Q1: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-1, 3_01A-2, 3_01A-3, 4_01-1, 4_01-2, 4_01-3, 4_03-1, 4_03-2, 4_05-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report		
	Q2: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_01A-3, 3_02B, 4_03-1, 4_03-2, 4_05-1	No. of working days per month, d	30 days			
	Q3: 2_01, 2_02A, 2_02B-1, 2_02B-2, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B, 3_02A-1, 4_05-1 Q4: 2_01, 2_02A, 2_02B-1, 2_03A, 2_03B, 2_05A, 2_05B-1, 2_05B-2,	No. of working hours per day, h	24 hour	AD40 Cookies 40.000		
	4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999		
		Emission Rate	4.18554E-07 g/m²/s (unmitigated) 3.474E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.3 %			
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999		
		Emission Rate	1.08704E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100		
airside tunnels (AT)	Heavy construction	Percentage active area, p	0.6 %	Assume % works area for heavy construction		
	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust		
	Q1: AT1, AT2, AT3 Q2: AT2, AT3 Q3: AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report		
	Q4: AT3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro		
		Emission Rate	1.92465E-07 g/m²/s (unmitigated) 1.59746E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100		
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	ΔP//2 Table 11 9-/		
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999		
	1	Emission Rate	4.99859E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100		

Description Barging Point	Sources	Parameter  Particle size multiplier, k	Emission Rate	Remarks For RSP, AP-42, section 13.2.4, 11/06 ed.
oarging Point	Unloading of spoils to barge Source ID: TBP1-6	Particle size multiplier, k Moisture content, M	0.35	Assume as the same as Express Rail Link and Extracted from SP
		Mean wind speed, U Emission Factor, E	4.9 m/s 4.40E-04 kg/Mg	License of XRL (Appendix C).  HKOAMO 2012 annual average wind speed  E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
				(AP-42, section 13.2.4, 11/06 ed.)
		No. of operation hour  Maximum handling capcity for each barging point	12 hr 47000 Mg/day	26 days per month From engineer
		Emission height	1.72E+00 kg/hr (Asphalt) 0.5 m	Assume 12 working hours (7:00 - 19:00) per day
		Mitigation efficiency	90 %	Installation of flexible curtain and shelter with water spray at discharge point
Concrete	Paved haul road outside concrete batching plant -	Emission Rate Particle size multiplier, k	4.78E-02 g/s (mitigated) 0.62 g/VKT	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
Batching Plant	For <b>Laden</b> Vehicle	Road surface silt loading, sL Average truck weight, W	12 g/m2 28.3 tons	AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of Asphalt Tipper, engineering estimate
	Source ID: WAB-HR1 to WAB-HR13			
	WAB-P4-HR1 to WAB-P4-HR10	Emission height	0.5 m	Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10	RSP emission factor, E	180 g/VKT	E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	EAB-HR1 to EAB-HR4			
	EAC-HR1 to EAC-HR4	No. of truck trips per day	96 trips/hr 140 trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-HR1 to EC-HR14 EC-P2-HR1 to EC-P2-HR7	No. of operation hour % of dust suppression	12 hr 97.5 %	Assume as the same as Express Rail Link and Extracted from SP
				License of XRL (Appendix C).
		Emission Rate	1.20E-04 g/m/s (mitigated) 1.75E-04 g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant Asphalt Tipper Lorries in Concrete Batching Plant
				The second secon
Concrete Batching Plant	Paved haul road outside concrete batching plant -	Particle size multiplier, k Road surface silt loading, sL	0.62 g/VKT 12 g/m2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.
	For <b>Unladen</b> Vehicle Source ID:	Average truck weight, W	8.24 tons	Empty loading of Asphalt Tipper, engineering estimate
	WAB-HR1 to WAB-HR13 WAB-P4-HR1 to WAB-P4-HR10	Emission height	0.5 m	Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height
	WC-HR1 to WC-HR13	RSP emission factor, E	51 g/VKT	E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	WC-P4-HR1 to WC-P4-HR10		J. 19/1/11	торган турот
	EAB-HR1 to EAB-HR4	No. of truck trips per day	30 trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4 EC-HR1 to EC-HR14	No. of operation hour	140 trips/hr 12 hr 97.5 %	From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant  Assume as the same as Express Rail Link and Extracted from SP
	EC-P2-HR1 to EC-P2-HR7	% of dust suppression	97.5	License of XRL (Appendix C).
		Emission Rate	1.1E-05 g/m/s (mitigated) 4.97E-05 g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant Asphalt Tipper Lorries in Concrete Batching Plant
Concrete Batching Plant	Unloading aggregate Source ID: (EP9)	Consumption Rate (Western + Eastern)	300 Mg/h (Asphalt) 2000 Mg/h (Concrete)	From engineer: Asphalt: 300 ton/hr = 150 ton/hr x 2 plants From engineer: Concrete: 2000 ton/hr = 500 ton/hr x4 plants
(Unloading of raw materials)	WAB-EP9, WAB-P4-EP9,	Consumption Rate (Western only)	150 Mg/h (Asphalt) 500 Mg/h (Concrete)	From engineer: Asphalt: 150 ton/hr From engineer: Concrete: 500 ton/hr
	WC-EP9, WC-P4-EP9	Particle size multiplier, k Moisture content, M	0.35 2 %	For RSP, AP-42, section 13.2.4, 11/06 ed. Assume as the same as Express Rail Link and Extracted from SP
	EAB-EP9, EC-EP9, EC-2-EP9, EC-3-EP9,	Mean wind speed, U	4.9 m/s	License of XRL (Appendix C). HKOAMO 2012 annual average wind speed
	EC-P2-EP9	Emission Factor, E	1.59E-03 kg/Mg	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4) (AP-42, section 13.2.4, 11/06 ed.)
			0.48 kg/hr (Asphalt - Westen + Eastern) 3.17 kg/hr (Concrete - Western +Eastern)	
			0.24 kg/hr (Asphalt - Westen only) 0.79 kg/hr (Concrete - Western only)	
		Mitigation efficiency	99 %	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		No. of operation hour Emission height	12 hr 4 m	
		Emission Rate (Western + Eastern) - Period 2 to 4	6.61E-04 g/s (mitigated) (Asphalt)	For each plant (150 ton/hr) Period 2 to 4: 150 ton/hr x 2 plants
			2.20E-03 g/s (mitigated) (Concrete)	For each plant (500ton/hr)
				Period 2: 500ton/hr x 2 plants Period 3&4: 500ton/hr x 4 plants
		Emission Rate (Western only) - Period 1	6.61E-04 g/s (mitigated) (Asphalt)	For 150 ton/hr only
Concrete	Small Cementitious Material Silos	Density	2.20E-03 g/s (mitigated) (Concrete) 2.24 Mg/m3	For 500 ton/hr only For Concrete & Asphalt density
Batching Plant Cement / PFA	Source ID: (EP5-EP8)			Refer to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-con
Silos)	WAB-EP5 to EP8, WAB-P4-EP5 to EP8, WC-EP5 to EP8, WC-P4-EP5 to EP8	RSP emission factor (0.37)	18.5 mg/m3	and-blank-asphalt"  Concretration limit, Annex I, A Guidance Note on the Best Praticable
	EAB-EP5 to EP8.	Tion emission factor (0.07)	10.5 mg/ms	Means for Cement Works (Concrete Batching Plant), EPD
	EC-EP5 to EP8, EC-2-EP5 to EP8, EC-3-EP5 to EP8, EC-P2-EP5 to EP8	Dust exhaust flow rate for each mixer (Total 4 sources)	60 tons/hr (Asphalt) 1200 tons/hr (Concrete)	Assume volume displacement by loading material
	EC-F2-EF3 to EF6		26.8 m3/hr (Asphalt)	For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7 m3/hr (Concrete) 12 hr	Accume as the same on Everyon Rail Link and Extracted from CD
		No. of small cement silos	21 or 22	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission height	21 or 22 m	EP5: 21m, EP6-EP8: 22m Assume as the same as Express Rail Link and Extracted from SP
		Emission Rate (Total 4 sources)	1.38E-04 g/s (mitigated) (Asphalt)	License of XRL (Appendix C).
		Emission Rate (Each source)	2.75E-03 g/s (mitigated) (Concrete) 3.44E-05 g/s (mitigated) (Asphalt)	
	PFA weight Hopper	Emission Factor (without mitigation)	6.88E-04 g/s (mitigated) (Concrete) 2.60E-03 kg/Mg	Weight hopper loading (uncontrolled), AP-42, section 11.12-4, Table
	Source ID: (EP3-EP4)	Density	2.24 Mg/m3	11.12-1, 6/06 ed. For Concrete & Asphalt density
	WAB-EP3 to EP4, WAB-P4-EP3 to EP4, WC-EP3 to EP4, WC-P4-EP3 to EP4			Refer to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-con
	EAB-EP3 to EP4,	RSP emission factor	5.82E-03 kg/m3	and-blank-asphalt"
	EC-EP3 to EP4, EC-2-EP3 to EP4, EC-3-EP3 to EP4, EC-P2-EP3 to EP4	Production rate (Total 2 sources)	25 m3/hr (Asphalt) 429 m3/hr (Concrete)	From engineer
		Mitigation efficiency Emission height	99 % 13 m	Total enclosure and fabric filter
		Emission Rate (Total 2 sources)	4.04E-04 g/s (mitigated) (Asphalt) 6.94E-03 g/s (mitigated) (Concrete)	
Concrete Batching Plant	Mixer Source ID: (EP1-EP2)	Density	2.24 Mg/m3	For Concrete & Asphalt density Refer to this web
(Mixing Tower)	WAB-EP1 to EP2, WAB-P4-EP1 to EP2, WC-EP1 to EP2, WC-P4-EP1 to EP2			"http://www.aqua-calc.com/page/density-table/substance/concrete-cor and-blank-asphalt"
	EAB-EP1 to EP2.	RSP emission factor (0.37)	18.5 mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
	EC-EP1 to EP2, EC-2-EP1 to EP2, EC-3-EP1 to EP2, EC-9-EP1 to EP2	Dust exhaust flow rate for each mixer (Total 2 sources)	60 tons/hr (Asphalt)	Assume volume displacement by loading material
		- 35. SALESS NOW TALE FOI EACH THINE! (TOTAL 2 SOUICES)	1200 tons/hr (Concrete) 26.8 m3/hr (Asphalt)	For concrete & Asphalt density: 2.24 tons/m3
		No of operation have	535.7 m3/hr (Concrete)	To concrete a Aspiral density. 2.24 tons/ms
		No. of operation hour No. of small cement silos	12 hr 2	
		Emission height		
		Emission height Emission Rate (Total 2 sources)	13 m 1.38E-04 g/s (mitigated) (Asphalt) 2.75E-03 g/s (mitigated) (Concrete)	

Description ockpile within	Sources  Material handling and storage piles	Parameter  Percentage open stockpile area, p	20	%	Remarks  80% stockpilling area is covered by impervious sheets and all dus
sphalt batching	Source ID: WABA1, WABA1-P4	- mgs appropriate aroust b			material should be sprayed with water immediately prior to any lo or transfer operation so as to keep the dusty material wet.
plant in western location		Particle size multiplier, k	0.35		k (particle size < 30μm)
	WABA2, WABA2-P4	Moisture content, M Average wind speed, U	5 4.9	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721	ka/Ma	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		m3/month (Asphalt)	From engineer
			5,250	m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/hr (Asphalt)	26 days per month, 12 working hours per day
		waximum nouny output, op	16.8	m3/hr (Aggregate)	26 days per month, 12 working hours per day
				Mg/hr (Asphalt) Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A	234	m <sup>2</sup> (Asphalt)	
		Area of the Aggregate stockpile, A Emission Rate (Asphalt stockpile)		m <sup>2</sup> (Aggregate) g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
		Emission Boto (Aggregate steeknile)	2.80234E-07	g/m²/s (mitigated) g/m²/s (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	4.67237E-07	g/m²/s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p		% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3) Emission Rate	0.255	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
		Emission rate		g/m²/s (mitigated)	=0.5 0.85 1000000/(10000 365 24 60 60) p/100
lled Material.	Material handling and storage piles	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dus
ushed gregate and	Source ID: WAR1, WAR1-P4				material should be sprayed with water immediately prior to any lo or transfer operation so as to keep the dusty material wet.
b-base		Particle size multiplier, k	0.35		k (particle size < 30µm)
ckpile in stern location	WCAS1, WCAS1-P4	Moisture content, M Average wind speed, U		% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
otom location	WSS1, WSS1-P4				
		Emission Factor, E Monthly output	0.000439721 422	kg/Mg m3/month (Milled Material)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
				m3/month (Crushed Aggregate) m3/month (Sub-base stockpile)	From engineer From engineer
		Maximum hourly output, op	1.4	m3/hr (Milled Material)	26 days per month, 12 working hours per day
				m3/hr (Crushed Aggregate) m3/hr (Sub-base stockpile)	
			3.4	Mg/hr (Milled Material)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
			130.4	Mg/hr (Crushed Aggregate) Mg/hr (Sub-base stockpile)	
		Area of the Milled Material stockpile, A Area of the Crushed Aggregate stockpile, A	279	m <sup>2</sup> (Milled Material)	
		Area of the Sub-base stockpile, A	6,209	m <sup>2</sup> (Crushed Aggregate) m <sup>2</sup> (Sub-base stockpile)	
		Emission Rate (Milled Material stockpile)	1.48173E-06	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Crushed Aggregate stockpile)	2.5523E-06	g/m²/s (unmitigated)	ga.ca 2ουιστιτίαιο -Ε 1000 ορ/(A 00 00) ρ/100
		Emission Rate (Sub-base stockpile)		g/m²/s (mitigated) g/m²/s (unmitigated)	
	Wind erosion	Percentage open stockpile area, p	5.13041E-07	g/m²/s (mitigated) % (unmitigated)	
	Source ID: As above		20	% (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3) Emission Rate		Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
				g/m²/s (mitigated)	=0.00 0.000 10000000, (100000 0.00 Σ.1 0.0 0.07 μ/1000
ckpile within	Material handling and storage piles	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all du
ohalt batching nt in eastern	Source ID: EABA1, EABA2				material should be sprayed with water immediately prior to any lo or transfer operation so as to keep the dusty material wet.
ation		Particle size multiplier, k	0.35		k (particle size < 30μm)
		Moisture content, M Average wind speed, U		% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721	ka/Ma	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		m3/month (Asphalt)	From engineer
			1,050	m3/month (Aggregate)	From engineer
		Maximum bayely aylayit an		m3/hr (Asphalt)	26 days per month, 12 working hours per day
		Maximum hourly output, op	3.4	m3/hr (Aggregate)	26 days per month, 12 working hours per day
				Mg/hr (Asphalt) Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A	154	m <sup>2</sup> (Asphalt)	
		Area of the Aggregate stockpile, A Emission Rate (Asphalt stockpile)		m <sup>2</sup> (Aggregate) g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
			8.53371E-08	g/m²/s (mitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)		g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p		% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
	Source ID: As above	Emission Factor (0.3)	0.255	Mg/hectare/year	AP42, Section 11.9.4
		Emission Rate		g/m²/s (unmitigated) g/m²/s (mitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
1 2 20 2					
ockpile within field batching	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dus material should be sprayed with water immediately prior to any lo
ant in eastern	EACC1, EACA1	Partiala siza multiplior k	0.35		or transfer operation so as to keep the dusty material wet.
cation		Particle size multiplier, k Moisture content, M	5	%	k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U	4.9	m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output	2,540	m3/month (Cement)	From engineer
			13,824	m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/hr (Cement)	26 days per month, 12 working hours per day
				m3/hr (Aggregate) Mg/hr (Cement)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Aroa of the Coment stacketts. A	110.8	Mg/hr (Aggregate)	. Seems support of dump track to our and 10 tons
		Area of the Cement stockpile, A Area of the Aggregate stockpile, A		m <sup>2</sup> (Cement) m <sup>2</sup> (Aggregate)	
		Emission Rate (Cement stockpile)	2.13755E-06	g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
		Emission Rate (Aggregate stockpile)	2.53887E-06	g/m²/s (mitigated) g/m²/s (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion	Percentage open stockpile area, p		g/m²/s (mitigated) % (unmitigated)	+
	Source ID: As above	Emission Factor (0.3)	20	% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Factor (0.3) Emission Rate	8.086E-07	g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
			1.6172E-07	g/m²/s (mitigated)	
ockpile within	Material handling and storage piles	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dumaterial should be sprayed with water immediately prior to any le
tching Plant in	Source ID: ECC1_2, ECC1_3, ECC1-P2				or transfer operation so as to keep the dusty material wet.
eastern location	ECA1 2, ECA1 3, ECA1-P2	Particle size multiplier, k Moisture content, M	0.35 5	%	k (particle size < 30µm) Assume worst case scenario
	_ ,,	Average wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		m3/month (Cement)	From engineer
				m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/hr (Cement) m3/hr (Aggregate)	26 days per month, 12 working hours per day
			346.7	Mg/hr (Cement)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Cement stockpile, A	3,944	Mg/hr (Aggregate) m2 (Cement)	
		Area of the Aggregate stockpile, A Emission Rate (Cement stockpile)		m2(Aggregate) g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
			2.14761E-06	g/m²/s (mitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)		g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion	Percentage open stockpile area, p		% (unmitigated)	
		, , , , ,	^^	% (mitigated)	80% stockniling area is covered by important charts
	Source ID: As above	Emission Factor (0.3) Emission Rate	0.255	% (mitigated) Mg/hectare/year g/m²/s (unmitigated)	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100

Description	Sources	Parameter		Emission Rate	Remarks
Crushed	Material handling and storage piles	Percentage open stockpile area, p	20 %		80% stockpiling area is covered by impervious sheets and all dusty
Aggregate Stockpile in eastern location	Source ID: ECA2, ECA2-P2	Particle size multiplier, k Moisture content, M	0.35 5 %		material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U Emission Factor, E	4.9 m/s 0.000439721 kg/N	/Mg	HKOAMO 2012 annual average wind speed E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output  Maximum hourly output, op	4,364 m3/ 14.0 m3/	3/hr	From engineer 26 days per month, 12 working hours per day
		Area of the stockpile, A Emission Rate	35.0 Mg/ 1,866 m2 2.28841E-06 g/m	2	Assume capacity of dump truck is 6m³ and 15 tons  Unmitigated Emission Rate=E*1000*op/(A*60*60)
	Wind erosion Source ID: As above	Percentage open stockpile area, p	4.57683E-07 g/m <sup>2</sup>	n²/s (mitigated) (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100  80% stockpiling area is covered by impervious sheets
	Source ID. As above	Emission Factor (0.3) Emission Rate	0.255 Mg/	n/hectare/year n²/s (unmitigated)	00% stockplining area is covered by impervious sheets AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile near seawall	Material handling and storage piles Source ID: CD1	Percentage open stockpile area, p	20 %		80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
		Particle size multiplier, k Moisture content, M Average wind speed, U	0.35 5 % 4.9 m/s	s	k (particle size < 30µm) Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	0.000439721 kg/N 1,167 m3/		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op	3.7 m3/ 7.5 Mg/	ı/hr	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
		Area of the stockpile, A Emission Rate	3,900 m2 2.34225E-07 g/m 4.68449E-08 g/m	n²/s (unmitigated) n²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p  Emission Factor (0.3)	20 % (r	(unmitigated) (mitigated) y/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate		n²/s (unmitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile at midfield	Material handling and storage piles Source ID: CD2, CD3	Percentage open stockpile area, p	20 %		80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
		Particle size multiplier, k Moisture content, M Average wind speed, U	0.35 5 % 4.9 m/s		k (particle size < 30µm) Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	0.000439721 kg/N 33,222 m3/		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op	106.5 m3/ 213.0 Mg/	ı/hr	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
		Area of the stockpile, A Emission Rate	6.42279E-07 g/m	n²/s (unmitigated) n²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p  Emission Factor (0.3)	20 % (r	(unmitigated) (mitigated) y/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate		n²/s (unmitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
Crushing Plant	Screening Source ID: CP1, CP2	RSP emission factor (0.3)	15 mg/	y/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Mineral Works (Stone Crushing Plants), EPD
		Density of rock	1760 Kg/r		Assume the same as approved EIA South East New Territories (SENT) Landfill Extension (EIA-143/2007) Annex A2
		Maximum handling capcity  No. of operation hour	700 Mg/l	/hr	From engineer
Crushing Plant	Tertiary Crushing	Emission height Emission Rate	15 m 1.66E-03 g/s	(mitigated)	
Ü	Source ID: CP1, CP2	RSP emission factor (0.3)  Density of rock	15 mg/ 1760 Kg/r		Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT) Landfill Extension (EIA-143/2007) Annex A2
		Maximum handling capcity	700 Mg/	ı/hr	From engineer
		No. of operation hour Emission height Emission Rate	12 hr 15 m 1.66E-03 g/s	(mitigated)	
Crushing Plant	Paved haul road outside crushing plant - For Laden Vehicle	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	0.62 g/VI 12 g/m 28.3 tons	/KT n2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of truck, assume the same as Asphalt Tipper, engineering
	Source ID: WAB-HR1 to WAB-HR13	Average track weight, w	20.0 10118		estimate
	WC-HR1 to WC-HR13	Emission height RSP emission factor, E	0.5 m		Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height  E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)
		NOT BINISSION INCLUI, E	180 g/Vł	/КТ	Truck
		No. of truck trips per day	66 trips	os/hr	From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		No. of operation hour % of dust suppression	12 hr 97.5 %		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate	8.29E-05 g/m.	, ,	Truck for crushing plant
Crushing Plant	Paved haul road outside crushing plant - For <b>Unladen</b> Vehicle Source ID:	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	0.62 g/Vl 12 g/m 8.24 tons	n2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of truck, assume the same as Asphalt Tipper, engineering estimate
	WAB-HR1 to WAB-HR13 WC-HR1 to WC-HR13	Emission height	0.5 m		Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height
	WOTHING WOTHING	RSP emission factor, E	51 g/VI	/КТ	trom 0.5m neignt E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck
		No. of truck trips per day	66 trips	)s/hr	From engineer: 700Mg/hr* (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		No. of operation hour % of dust suppression	12 hr 97.5 %		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate	2.4E-05 g/m	n/s (mitigated)	Truck for crushing plant
L					

### (Annual) Floating Concrete Batching Plant

Description	Sources	Parameter	<u> </u>	Emission Rate	Remarks
	Unloading aggregate	Consumption Rate		Mg/h (Concrete)	From engineer: Concrete: 39.6 ton/hr = 1900 ton / (2 days * 24 h)
	Source ID:	Aggregate tank capacity		tons	From engineer
Inloading of raw aterials)	F-EP1	Refill frequency	-	days	From engineer
atoriais)		Particle size multiplier, k	0.35	5	For RSP, AP-42, section 13.2.4, 11/06 ed.
		Moisture content, M	2	2 %	Assume as the same as land-based CBP
		Mean wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	1.59E-03	B kg/Mg	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
					(AP-42, section 13.2.4, 11/06 ed.)
			0.06	kg/hr (Concrete)	
			0.00	rg/iii (Concrete)	
		Mitigation efficiency	99	%	Fully covered and handling with water spraying system (From engineer)
			_		
		No. of operation hours Emission height		ihr Im	Assume worst case From engineer
		Emission neight	10	)	From engineer
		Emission Rate	1.74E-04	g/s (mitigated) (Concrete)	
oating Concrete	Cement Silos	Density		Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
Cement / PFA /	5.500	DOD : : ( ) (0.07)	10.5		and-blank-asphalt"
SF Silos)	F-EP2	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
					wealts for Certient Works (Concrete Batching Flant), EFD
		Cement silo capacity (Each silo)	110	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 4 silos)		tons/hr (Concrete)	From engineer: 7.33 ton/hr = 4 silos * (110 ton / (2.5 days * 24 h))
			3.3	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No of anarotion bours		l har	Assume ward asse
		No. of operation hours No. of small cement silos	24	lhr 1	Assume worst case From engineer
		Emission height	10	) m	From engineer
		Emission Rate (Total 4 silos)	1.68E-05	g/s (mitigated) (Concrete)	
		· · · ·			
	DEA O	D "		111111111111111111111111111111111111111	
	PFA Silos Source ID:	Density	2.24	Mg/m3	For Concrete density, refer to this website "http://www.aqua-calc.com/page/density-table/substance/concrete-coma
	Source ID.				and-blank-asphalt"
	F-EP3	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
		,		ŭ	Means for Cement Works (Concrete Batching Plant), EPD
		PFA silo capacity (Each silo)	90	tons	From engineer
		Refill frequency Dust exhaust flow rate (Total 2 silos)	2 75	2 days 5 tons/hr (Concrete)	From engineer From engineer: 3.75 ton/hr = 2 silos * (90 ton / (2 days * 24 h))
		Dust exhaust now rate (Total 2 Silos)		7 m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours		hr	Assume worst case
		No. of PFA silos			From engineer
		Emission height Emission Rate (Total 2 silos)		m 6 g/s (mitigated) (Concrete)	From engineer
		Emission rate (Total 2 Silos)	0.00E-06	g/s (miligated) (Concrete)	
	CSF Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
	F-EP4	PSP omission factor (0.27)	10.5	mg/m <sup>2</sup>	and-blank-asphalt"  Concretration limit Anney I. A Guidance Note on the Roct Praticable
	-L  +	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
		CSF silo capacity (Each silo)	30	tons	From engineer
		Refill frequency	5	days	From engineer
		Dust exhaust flow rate (Total 2 silos)		tons/hr (Concrete)	From engineer: 0.5 ton/hr = 2 silos * (30 ton / (5 days * 24 h))
			0.2	2 m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	1 hr	Assume worst case
		No. of CSF silos	2		From engineer
		Emission height	10	m	From engineer
		Emission Rate (Total 2 silos)	1.15E-06	g/s (mitigated) (Concrete)	
oating Concrete	Mixer	Density	2.2/	1 Mg/m3	For Concrete density, refer to this website
	Source ID:	Solidi	2.25		"http://www.aqua-calc.com/page/density-table/substance/concrete-coma
Mixing Tower)					and-blank-asphalt"
,	F-EP5	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		Dust exhaust flow rate (Total 2 mixers)	E00	tons/hr (Concrete)	From engineer: 280 ton/hr * 2 mixers
		Dust extidust flow rate (Total 2 mixers)	260	Tions/III (Concrete)	Trom engineer. 200 (01)/111 2 Illixers
			250.0	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
				(=====/	
		No. of operation hours	24	hr	Assume worst case
		No. of mixers	2		From engineer
				2 7 m 8 g/s (mitigated) (Concrete)	From engineer From engineer