Note (Scenario 1 & 2)

a. Emission rate derived for wind erosion based on USEPA AP-42 Section 11.9 (edition 10/98), E (Mg/ha/yr) = 0.85
Control efficiency = 70%

b. Emission rate for material handling derived based on USEPA AP-42 Section 13.2.4 (edition 01/95), E (kg/Mg) = $k(0.0016)(U/2.2)^{1.3}/(M/2)^{1.4}$
Where k = 0.74, U = 2.4m/s, M = 2.0%
Capacity of a typical truck = 10.8 tons (Information from CED)
Control efficiency = 90% (USEPA AP-42 Section 13.2.4.4 - Control efficiency up to 90% by continuous chemical treating of materials, coupled with watering)

c. Emission rate for overszed material crushing/screening derived based on USEPA AP-42 Section 11.19.2 (edition 01/95), E (kg/Mg) = 0.00035 kg/Mg and 0.01596 kg/Mg for crushing and screening respectively
Capacity of a typical truck = 10.8 tons (Information from CED)
Control efficiency = 90% (Control Techniques for Particulate Emissions from Stationary Sources Vo..2 Section 9.7.1.2.2 - efficiency is more than 99% for fabric filters with continuous cleaning)

d. Emission rate derived based on total excavated materials of 66,000cu-m in 18 months as specified in Section 14.5.3 of the EIA report for PAFF

e. Emission rate derived based on total excavated materials of 110,000cu-m estimated based on the qty of 66,000cu-m for PAFF and projection based on relative area of PAFF and RP1 (6 ha v.s. 10 ha) and construction period of 6 months

f. Emission rates for paved haul road based on USEPA AP-42 Section 13.2.1 (edition 10/97) E (kg/v-km) = $k(sL/2)^{0.65}(W/3)^{1.5}/1000$
Where k = 24, sL = 2.4 (silt loading based on Table 13.2.1-3 - quarry in AP-42)
W = 14 ton (unladen), 24.8 ton (public fill laden), 21 ton (mixed material laden), 19.2 ton (waste laden) (Information based on typical unladen and laden truck weight)
Control efficiency = 95% (Control Techniques for Particulate Emissions from Stationary Sources Vo..2 Section 9.12.2.2.1 - a dust control efficiency of up to 95% is achievable when a dust suppression chemical is used)

g. Emission rates for unpaved road based on USEPA AP-42 Section 13.2.2 (edition 09/98) E (kg/v-km) = $k(s/12)^{a}(W/3)^{b}/(M/0.2)^{c}(S/15)$
Where k = 10, a = 0.8, b = 0.5, c = 0.4, S = 6.2 mph, M = 2%, s=7.1% (average vehicle speed = 10km/h; moisture content of 2% same as b, silt content based on Table 13.2.2-1 - material storage area for sand/ gravel processing in AP-42;)
W = 14 ton (unladen) & 24.8 ton (laden) (Information based on typical unladen truck weight and typical truckload of $6m^3$)
Control efficiency = 90% (Control Techniques for Particulate Emissions from Stationary Sources Vo..2 Section 9.12.2.2.1 - a dust control efficiency of up to 95% is achievable when a dust suppression chemical is used)

^ Particle distribution - 80% (30mm) & 20% (10mm) (Guide to Rock and Soil Descriptions issued by Geotechnical Control Office, Civil Engineering Department, Hong Kong (1988))

(A) From Outside to C&DMSF
1 truck carries 7 tonnes, 600 tonnes of sorted material estimated, daily vehicle trip = 600/7 = 85.7, peak hourly vehicle trip = 85.7*0.13 = 11.1, normal hourly vehicle trip = 85.7/11 = 7.8, non-peak hourly vehicle trip = 85.7*0.05 = 4.3

(B) From C&DMSF to Landfill
1 truck carries 5.2 tonnes, 300 tonnes of waste estimated, daily vehicle trip = 300/5.2 = 57.7, peak/normal/non-peak hourly vehicle trip = 57.7/11 = 5.2

(C) From C&DMSF to Stockpiled Area
1 truck carries 10.8 tonnes, 300 tonnes of sorted material estimated, daily vehicle trip = 300/10.8 = 27.8, peak/normal/non-peak hourly vehicle trip = 27.8/11 = 2.5

(D) From Outside to C&DMRF
1 truck carries 10.8 tonnes, 2,400 tons of daily capacity, daily vehicle trip = 2400/10.8 = 222.2,peak hourly vehicle trip = 222.2*0.13=28.9, normal hourly vehicle trip = 222.2/11=20.2, non-peak hourly vehicle trip = 222.2*0.05=11.1

(E) From C&DMRF to Outside
1 truck carries 10.8 tonnes, 1,200 tons of aggregate generated, daily vehicle trip = 1200/10.8 = 111.1, peak/normal/non-peak hourly vehicle trip = 111.1/11=10.1

(F) From C&DMRF to Stockpiled Area
1 truck carries 10.8 tonnes, 1,200 tons of public fill retained, daily vehicle trip = 1200/10.8 = 111.1, peak/normal/non-peak hourly vehicle trip = 111.1/11=10.1

(G) From Outside to Stockpiled Area
1 truck carries 10.8 tonnes, 1,200-222.2=977.8 daily vehicle trip, peak hourly vehicle trip = 977.8*0.13=127.1, normal hourly vehicle trip = 977.8/11=88.9, non-peak hourly vehicle trip = 977.8*0.05=48.9

(H) From Barge to Stockpiled Area
1 truck carries 10.8 tonnes, 1,850 daily vehicle trip, peak/normal/non-peak hourly vehicle trip = 1850/11=168.2

(I) From Stockpiled Area to PBR2 Sorting Facility
1 truck carries 10.8 tonnes, 9,000 tons of daily capacity, daily vehicle trip = 9000/10.8 = 833.3, peak/normal/non-peak hourly vehicle trip = 833.3/11=75.8

(J) From Outside to PAFF
1 truck carries 10.8 tonnes, density = $2500kg/m^3$, 66,000 cu-m transported in 18 months, working period assumed as 26 days per month & 12 hours per day, Truckload = 2.5*66,000/18/26/12/10.8 = 2.7 per hour

(K) From Outside to Recovery Park Phase 1
1 truck carries 10.8 tonnes, density = $2500kg/m^3$, 110,000 cu-m transported in 6 months, working period assumed as 26 days per month & 12 hours per day, Truckload = 2.5*110,000/6/26/12/10.8 = 13.6 per hour