

Appendix 3.1

Calculation of Construction Dust Emission Source

Appendix 3.1 Calculation of Construction Dust Emission Source
Construction Phase of HSKNDA Scenario 1 (Year 2019 - Year 2030) & Scenario 2 (Year 2031 - Year 2036)

Emission rates for Short-term Average Prediction (Tier 1)

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks
Site Formation Site in HSKNDA	Construction Activities	Heavy Construction Area Source (g/m ² /s)	2.076E-04	1.723E-05	Emission Rate = (Emission Factor*10^6/10000)/(30*No. of Operation hour*60*60)*(Percentage Active/100)*(1-Dust Suppression%) TSP emission factor (Mg/hectare/month of activity) Percentage area actively operating (%) % of dust suppression no. of operation hour (hr) Emission height (m)	2.69 from AP-42, S13.2.3, 1/95 ed. 100 Full strength (Tier 1 Test) 91.7 For watering once an hour. Refer to the Calculation of Dust Suppression Efficiency by Watering. 12 Assume typical working hours of work site referenced in AP-42 0.5
			9.818E-05	8.149E-06	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	1.27237 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
			1.494E-05	1.240E-06	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.19368 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
		Wind Erosion Area Source (g/m ² /s)		2.695E-06	Emission Rate = Emission Factor*10^6/(10000*365*24*60*60)*(Percentage Active/100) TSP emission factor (Mg/hectare/yr) Percentage area actively operating (%) Emission height (m)	0.85 AP-42, 5th ed., Table 11.9.4 100 Full strength (Tier 1 Test) 0.5
				1.275E-06	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.40205 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
				1.941E-07	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.0612 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4

Appendix 3.1 Calculation of Construction Dust Emission Source
Construction Phase of HSKNDA Scenario 1 (Year 2019 - Year 2030) & Scenario 2 (Year 2031 - Year 2036)

Emission rates for Short-term Average Prediction (Tier 2 & Tier 3)

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks
Site Formation Site in HSKNDA	Construction Activities	Heavy Construction Area Source (g/m ² /s)	2.076E-04	1.723E-05	Emission Rate = (Emission Factor*10^6/10000)/(30*No. of Operation hour*60*60)*(Percentage Active/100)*(1-Dust Suppression%) TSP emission factor (Mg/hectare/month of activity) Percentage area actively operating (%) % of dust suppression no. of operation hour (hr) Emission height (m)	2.69 from AP-42, S13.2.3, 1/95 ed. 100 Full strength (Tier 2 Test) 91.7 For watering once an hour. Refer to the Calculation of Dust Suppression Efficiency by Watering. 12 Assume typical working hours of work site referenced in AP-42 0.5
			9.818E-05	8.149E-06	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	1.27237 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
		Wind Erosion Area Source (g/m ² /s)	1.494E-05	1.240E-06	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.19368 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
			2.695E-06	2.695E-06	Emission Rate = Emission Factor*10^6/(10000*365*24*60*60)*(Percentage Active/100) TSP emission factor (Mg/hectare/yr) Percentage area actively operating (%) Emission height (m)	0.85 AP-42, 5th ed., Table 11.9.4 100 Full strength (Tier 2 Test) 0.5
			1.275E-06	1.275E-06	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.40205 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
	Work Area at Park, Open Space, Community Farm and Amenity Area	Spoil Handling Activity	1.941E-07	1.941E-07	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.0612 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
			4.900E-07	4.067E-08	Emission Factor (kg/Mg) = k * (0.0016) * (U / 2.2)^1.3 / (M / 2)^1.4 Mean Wind Speed U (m/s) Material moisture content M (%) Spoil handling rate (Mg/hr) % of dust suppression Emission height (m)	2.765 from AP-42, S13.2.4-4, 11/06 ed. WRF data extracted from PATH-2016 3.4 for exposed ground, from AP-42, Table 13.2.4-1, 11/06 ed. 23.27 from engineer, 12m ³ /hr for 1 ha per month 91.7 For watering once an hour. Refer to the Calculation of Dust Suppression Efficiency by Watering. 0.5
					Emission Rate (g/m ² -s)= Emission Factor * 1000g * Handling Rate / 10000m ² / 3600s * (1 - Dust Suppression%) Particle size multiplier k TSP emission factor (kg/Mg)	0.74 for TSP, from AP-42, S13.2.4-4, 11/06 ed. 0.00076
					Particle size multiplier k RSP emission factor (kg/Mg)	0.35 for RSP, from AP-42, S13.2.4-4, 11/06 ed. 0.00036
					Particle size multiplier k FSP emission factor (kg/Mg)	0.053 for FSP, from AP-42, S13.2.4-4, 11/06 ed. 0.00005
				2.913E-09	Emission Rate = Emission Factor*10^6/(10000*365*24*60*60)*(Percentage Active/100) TSP emission factor (Mg/hectare/yr) Percentage area actively operating (%) Emission height (m)	0.85 AP-42, 5th ed., Table 11.9.4 100 Full strength (Tier 2 Test) 0.5
					RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.40205 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
					FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.0612 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4

Appendix 3.1 Calculation of Construction Dust Emission Source
Construction Phase of HSKNDA Scenario 1 (Year 2019 - Year 2030) & Scenario 2 (Year 2031 - Year 2036)

Emission rates for Annual Average Prediction

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks
Site Formation Site in HSKNDA	Construction Activities	Heavy Construction Area Source (g/m ² /s)	2.076E-05	1.723E-06	Emission Rate = (Emission Factor*10^6/10000)/(30*No. of Operation hour*60*60)*(Percentage Active/100)*(1-Dust Suppression%) TSP emission factor (Mg/hectare/month of activity) Percentage area actively operating (%) % of dust suppression no. of operation hour (hr) Emission height (m)	2.69 from AP-42, S13.2.3, 1/95 ed. 10 Conservative estimate 91.7 For watering once an hour. Refer to the Calculation of Dust Suppression Efficiency by Watering. 12 Assume typical working hours of work site referenced in AP-42 0.5
			9.818E-06	8.149E-07	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	1.27237 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
			1.494E-06	1.240E-07	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.19368 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
	Wind Erosion Area Source (g/m ² /s)		2.695E-07	2.695E-07	Emission Rate = Emission Factor*10^6/(10000*365*24*60*60)*(Percentage Active/100) TSP emission factor (Mg/hectare/yr) Percentage area actively operating (%) Emission height (m)	0.85 AP-42, 5th ed., Table 11.9.4 10 Conservative estimate 0.5
			1.275E-07	1.275E-07	RSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.40205 0.473 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
			1.941E-08	1.941E-08	FSP emission factor (Mg/hectare/month of activity) % fraction of TSP	0.0612 0.072 from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4

Appendix 3.1 Calculation of Construction Dust Emission Source

Calculation of Dust Suppression Efficiency by Watering

Dust suppression efficiency of 91.7% is assumed in the assessment. The estimation and relevant assumptions are discussed as below.

With reference to the Equation of (5-4) of USEPA's Control of Open Fugitive Dust Sources (EPA-450/3-98-008), dust suppression efficiency can be estimated by:

$$C = 100 - \frac{0.8 \cdot p \cdot d \cdot t}{i}$$

where

C = average control efficiency, in percent

p = potential average hourly daytime evaporation rate in mm/ hour

d = average hourly daytime traffic rate in vehicles per hour

i = application intensity in L/m²

t = time between applications in hour

The following assumptions are made for assessment purpose:

- Potential average hourly daytime evaporation rate p can be estimated by $0.0049 * e$, where e is the mean annual average evaporation rate (inches). From past measurement data by Hong Kong's Observatory, evaporation recorded at King's Park between 1981 – 2010 is 1227.3 mm¹. Therefor $p = 0.0049 * 1227.3 \text{ mm} = 0.0049 * (48.32 \text{ inches}) = 0.2368$
- Assume average hourly daytime traffic rate in vehicles per hour $d = 60$. (Conservative assumption)
- Assume watering application intensity $i = 1.37 \text{ L/m}^2$.
- Assume watering frequency as once per hour, $t = 1$.

With the above assumptions, dust suppression efficiency by watering is estimated as below:

$$C = 100 - 0.8 * 0.2368 * 60 * 1 / 1.37 = \underline{\textbf{91.7\%}}$$

¹ The Hong Kong's Observatory evaporation recorded at King's Park between 1981 to 2010 is taken from http://www.weather.gov.hk/cis/normal/1981_2010/normals_e.htm.

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2019 - 2030)

Short-term and Annual Assessments (Unmitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)					RSP Emission Rate (g/m ² -s)					FSP Emission Rate (g/m ² -s)					
		Short-term Assessment					Annual Assessment					Short-term Assessment					
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	
26AW_01	AREA	816291.5	833069.8	64.97	22.19	0.5	106.0	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_02	AREA	816352.4	833201.3	208.09	223.79	0.5	106.03	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_03	AREA	817783.8	834032.5	163.50	178.95	0.5	92.39	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_04	AREA	817935.8	833877.8	63.55	30.41	0.5	152.40	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_05	AREA	817879.4	833848.4	230.87	56.22	0.5	152.40	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_06	AREA	817863.3	833657.7	23.29	47.19	0.5	105.57	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_07	AREA	817791.2	833785.4	126.97	103.91	0.5	105.57	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_08	AREA	817755.6	832992.5	134.74	63.52	0.5	158.44	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_09	AREA	816391.5	832975.9	101.63	49.99	0.5	107.28	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_10	AREA	816439.5	832961.9	208.78	72.49	0.5	107.28	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_11	AREA	816298.0	832635.6	48.65	31.58	0.5	127.25	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_12	AREA	816235.6	832597.8	105.97	54.61	0.5	103.88	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_13	AREA	816171.2	832504.5	68.48	80.13	0.5	103.88	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_14	AREA	816312.9	832461.0	56.01	35.71	0.5	112.47	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_15	AREA	816239.2	832415.4	182.41	73.23	0.5	98.93	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_16	AREA	816339.4	832688.2	290.42	62.36	0.5	112.47	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_17	AREA	816220.0	832230.9	36.79	49.07	0.5	97.34	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_18	AREA	817505.3	832935.2	34.65	34.75	0.5	178.21	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_19	AREA	817538.1	833034.0	35.93	125.75	0.5	178.21	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_20	AREA	817549.8	832917.0	188.09	66.93	0.5	167.31	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_21	AREA	816295.5	831970.4	62.38	56.15	0.5	153.34	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_22	AREA	816352.2	832990.8	150.70	43.67	0.5	177.22	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_23	AREA	816301.4	833006.2	76.27	17.90	0.5	177.22	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_24	AREA	816419.2	832313.7	28.76	34.13	0.5	106.59	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_25	AREA	816472.1	833217.1	99.52	129.18	0.5	106.59	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_26	AREA	816305.1	832315.3	40.29	51.39	0.5	106.59	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_27	AREA	816297.5	832062.3	68.39	90.12	0.5	169.94	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_28	AREA	816233.1	832033.6	11.65	80.25	0.5	169.94	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_29	AREA	816286.4	832075.7	51.18	15.16	0.5	169.94	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_30	AREA	816317.9	832047.7	17.57	46.27	0.5	169.94	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
26AW_31	AREA	816652.3															

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2019 - 2030)

Short-term and Annual Assessments (Unmitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)						RSP Emission Rate (g/m ² -s)						FSP Emission Rate (g/m ² -s)					
		Short-term Assessment			Annual Assessment			Short-term Assessment			Annual Assessment			Short-term Assessment			Annual Assessment		
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours
26S2_13	AREA	816235.5	834481.1	51.80	35.10	0.5	148.23	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_14	AREA	816374.0	834746.9	76.97	42.23	0.5	174.99	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_15	AREA	816265.3	834532.1	22.11	75.44	0.5	153.38	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_16	AREA	816377.7	834704.9	111.69	264.72	0.5	174.99	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_17	AREA	816552.9	834387.0	14.75	75.58	0.5	100.39	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_18	AREA	816401.6	834385.3	83.13	108.85	0.5	100.39	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_19	AREA	816288.8	834428.9	27.25	31.92	0.5	177.44	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_20	AREA	816400.8	834441.2	115.43	57.93	0.5	172.30	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_21	AREA	816260.9	834440.3	136.55	45.49	0.5	176.60	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_22	AREA	816449.1	835281.2	13.29	73.17	0.5	125.98	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_23	AREA	816516.5	835242.7	28.39	65.86	0.5	151.24	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_24	AREA	816378.0	835355.1	37.09	240.34	0.5	117.05	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_25	AREA	816539.2	835030.2	124.25	115.24	0.5	140.97	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
26S2_26	AREA	816362.4	834188.1	136.71	197.76	0.5	110.27	07:00 - 19:00	2.07E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA Scenario 1 Year 2026 - Year 2030

Short-term and Annual Assessments (Mitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)						RSP Emission Rate (g/m ² -s)						FSP Emission Rate (g/m ² -s)						
		Short-term Assessment (Tier 1)						Annual Assessment						Short-term Assessment (Tier 1)						
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
26AW_01	Area	816391.47	832975.85	101.63	49.99	0.5	107.3	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_02	Area	816439.48	832961.88	208.78	72.49	0.5	107.28	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_03	Area	816298.00	832635.59	48.65	31.58	0.5	127.25	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_04	Area	816235.56	832597.78	105.97	54.61	0.5	103.88	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_05	Area	816171.24	832504.52	68.48	80.13	0.5	103.88	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_06	Area	816312.88	832461.00	56.01	35.71	0.5	112.47	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_07	Area	816239.18	832415.39	182.41	73.23	0.5	98.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_08	Area	816339.39	832688.22	290.42	62.36	0.5	112.47	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_09	Area	816228.00	832230.94	36.79	49.07	0.5	97.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_10	Area	817505.25	832935.26	34.65	34.75	0.5	178.21	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_11	Area	817538.11	833033.99	35.93	125.75	0.5	178.21	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_12	Area	817549.77	832916.96	188.09	66.93	0.5	167.31	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_13	Area	816295.48	831970.39	62.38	56.75	0.5	153.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_14	Area	816352.21	832990.76	157.00	43.67	0.5	177.22	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_15	Area	816301.41	833006.21	76.27	17.90	0.5	177.22	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_16	Area	816419.18	832213.63	28.76	34.13	0.5	106.59	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_17	Area	816472.09	832271.72	99.52	129.18	0.5	106.59	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_18	Area	816292.20	833069.87	20.55	22.18	0.5	106.59	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_19	Area	816305.07	832215.34	40.29	51.39	0.5	106.59	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_20	Area	816354.96	833202.78	165.91	233.14	0.5	106.59	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_21	Area	816297.47	832062.27	68.39	90.12	0.5	169.94	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_22	Area	816233.09	832033.61	11.65	80.25	0.5	169.94	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_23	Area	816266.44	832075.72	51.18	15.16	0.5	169.94	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	1.240E-07	1.941E-08
26AW_24	Area	816317.91	832047.65	17.57	46.27	0.5	169.94	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.		

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA Scenario 1 Year 2026 - Year 2030

Short-term and Annual Assessments (Mitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)						RSP Emission Rate (g/m ² -s)						FSP Emission Rate (g/m ² -s)					
		Short-term Assessment (Tier 1)						Short-term Assessment (Tier 1)						Annual Assessment					
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours
26S2_21	Area	816288.82	834428.86	27.25	31.92	0.5	177.44	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	
26S2_22	Area	816400.75	834441.15	115.43	57.93	0.5	172.30	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_23	Area	816260.85	834440.26	136.55	45.49	0.5	176.60	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_24	Area	816449.12	835281.19	13.29	73.17	0.5	125.98	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_25	Area	816516.52	835242.70	28.39	65.86	0.5	151.24	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_26	Area	816377.98	835355.07	37.09	240.34	0.5	117.05	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_27	Area	816539.16	835030.23	124.25	115.24	0.5	140.97	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_28	Area	816386.76	834380.80	93.47	158.08	0.5	172.30	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_29	Area	816388.69	834198.11	18.48	144.20	0.5	110.27	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	
26S2_30	Area	816362.43	834188.11	136.71	197.76	0.5	110.27	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term and Annual Assessments (Unmitigated Scenario)

Source Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s)		RSP Emission Rate (g/m ² -s)				FSP Emission Rate (g/m ² -s)				
								Short-term Assessment		Short-term Assessment		Annual Assessment		Short-term Assessment		Annual Assessment		
								Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	
31AW_01	AREA	817812.25	833754.56	126.30	56.59	0.5	153.1	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08	
31S21_01	AREA	818724.03	832068.62	150.00	80.00	0.5	106.11	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08	
31S3_01	AREA	817228.19	835715.93	577.70	120.11	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_02	AREA	817429.78	834232.36	31.41	57.37	0.5	132.98	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_03	AREA	817506.55	834191.57	31.20	143.88	0.5	108.62	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_04	AREA	817382.04	834289.49	53.05	384.93	0.5	108.62	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_05	AREA	817681.41	834587.10	62.78	76.69	0.5	108.62	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_06	AREA	818338.06	833819.32	166.67	54.61	0.5	115.13	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_07	AREA	818309.56	833973.24	166.99	0.5	131.74	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08	
31S3_08	AREA	818205.72	833813.20	268.88	99.21	0.5	94.61	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_09	AREA	818128.36	833778.10	287.03	74.28	0.5	94.61	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_10	AREA	818003.48	833744.70	376.36	121.79	0.5	94.61	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_11	AREA	818510.68	833967.85	42.65	131.68	0.5	106.71	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_12	AREA	818383.51	833961.50	57.48	239.95	0.5	106.71	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_13	AREA	817100.35	835687.39	150.75	37.24	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_14	AREA	816974.98	835691.60	165.63	58.75	0.5	123.27	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_15	AREA	817235.22	835741.24	238.15	51.41	0.5	171.93	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_16	AREA	816982.61	835009.81	157.64	25.30	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_17	AREA	817079.03	835106.85	351.47	37.89	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_18	AREA	816687.25	834982.87	47.85	86.02	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_19	AREA	816696.26	835059.65	45.21	165.99	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_20	AREA	816730.90	835197.79	66.73	60.45	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_21	AREA	816595.97	83529.30	21.80	127.87	0.5	107.54	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_22	AREA	816755.20	835377.88	76.32	54.79	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_23	AREA	817262.05	835597.31	658.41	151.20	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_24	AREA	817142.90	835357.94	53.34	188.33	0.5	150.9	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_25	AREA	817529.67	834707.53	49.95	41.14	0.5	90.83	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06	9.81E-06	1.27E-07	1.49E-05	1.94E-07	1.49E-06	1.94E-08
31S3_26	AREA	817517.04	834723.33	83.14	61.74	0.5	90.83	07:00 - 19:00	2.07E-04	2.69E-06	9.81E-05	1.27E-06</						

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term and Annual Assessments (Unmitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)						RSP Emission Rate (g/m ² -s)						FSP Emission Rate (g/m ² -s)						
		Short-term Assessment			Annual Assessment			Short-term Assessment			Annual Assessment			Short-term Assessment			Annual Assessment			
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
31S4_27	AREA	817301.16	835446.04	181.12	188.00	0.5	150.9	07:00 - 19:00	2.076E-04	2.695E-06	9.818E-05	1.275E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08	
31S4_28	AREA	817365.89	835791.28	157.77	55.32	0.5	95.31	07:00 - 19:00	2.076E-04	2.695E-06	9.818E-05	1.275E-06	9.818E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
31S4_29	AREA	817341.36	835773.83	101.54	743.47	0.5	165.29	07:00 - 19:00	2.076E-04	2.695E-06	9.818E-05	1.275E-06	9.818E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
31S4_30	AREA	817827.48	834707.05	165.24	179.66	0.5	149.29	07:00 - 19:00	2.076E-04	2.695E-06	9.818E-05	1.275E-06	9.818E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08
31S4_31	AREA	817828.14	834541.18	125.52	76.57	0.5	108.62	07:00 - 19:00	2.076E-04	2.695E-06	9.818E-05	1.275E-06	9.818E-06	1.275E-07	1.494E-05	1.941E-07	1.494E-06	1.941E-08	1.494E-06	1.941E-08

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA Scenario 2 (Year 2031 - Year 2036)

Short-term and Annual Assessments (Mitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² ·s)					RSP Emission Rate (g/m ² ·s)					FSP Emission Rate (g/m ² ·s)						
		Short-term Assessment (Tier 1)					Annual Assessment					Short-term Assessment (Tier 1)						
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
31AW_01	AREA	817812.25	833754.56	126.30	56.59	0.5	153.1°	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S21_01	AREA	818724.03	832068.62	150.00	80.00	0.5	106.11	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_01	AREA	817228.19	835715.93	577.70	120.11	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_02	AREA	817429.78	834232.36	31.41	57.37	0.5	132.98	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_03	AREA	817506.55	834191.57	31.20	143.88	0.5	108.62	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_04	AREA	817382.04	834289.49	53.05	384.93	0.5	108.62	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_05	AREA	817681.41	834587.10	62.78	76.69	0.5	108.62	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_06	AREA	818338.06	833819.32	166.67	54.61	0.5	115.13	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_07	AREA	818309.56	833973.24	168.99	0.5	131.74	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	
31S31_08	AREA	818205.72	833813.20	268.80	99.21	0.5	94.61	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_09	AREA	818128.36	833778.10	287.03	74.28	0.5	94.61	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_10	AREA	818003.48	833744.70	376.36	121.79	0.5	94.61	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_11	AREA	818510.68	833967.85	42.65	131.68	0.5	106.71	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_12	AREA	818383.51	833961.50	57.48	239.95	0.5	106.71	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_13	AREA	817100.35	835687.39	150.75	37.24	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_14	AREA	816974.98	835691.60	165.63	58.75	0.5	123.27	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_15	AREA	817235.22	835741.24	238.15	51.41	0.5	171.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_16	AREA	816982.61	835009.81	157.64	25.30	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_17	AREA	817079.03	835106.85	35.41	37.89	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_18	AREA	816687.25	834982.87	47.85	86.02	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_19	AREA	816696.26	835059.65	45.21	165.99	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_20	AREA	816730.90	835197.79	66.73	60.45	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_21	AREA	816659.97	83529.30	21.80	127.87	0.5	107.54	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_22	AREA	816755.20	835377.88	76.32	54.79	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_23	AREA	817262.05	835597.31	658.41	151.20	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_24	AREA	817142.90	835379.74	53.54	188.33	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S31_25	AREA	817529.67	834707.53	49.95	41.14	0.5	90.83	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.240E-06</					

Appendix 3.1 Calculation of Construction Dust Emission Source

Construction Phase of HSKNDA Scenario 2 (Year 2031 - Year 2036)

Short-term and Annual Assessments (Mitigated Scenario)

Source	Type	TSP Emission Rate (g/m ² -s)						RSP Emission Rate (g/m ² -s)						FSP Emission Rate (g/m ² -s)						
		Short-term Assessment (Tier 1)						Short-term Assessment (Tier 1)						Annual Assessment						
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
31S4_27	AREA	817301.16	835446.04	181.12	188.00	0.5	150.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08	
31S4_28	AREA	817365.89	835791.28	157.77	55.32	0.5	95.31	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S4_29	AREA	817341.36	835773.83	101.54	743.47	0.5	165.29	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S4_30	AREA	817827.48	834707.05	165.24	179.66	0.5	149.29	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08
31S4_31	AREA	817828.14	834541.18	125.52	76.57	0.5	108.62	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	8.149E-07	1.275E-07	1.240E-06	1.941E-07	1.240E-07	1.941E-08	1.240E-07	1.941E-08

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2019 - Year 2030)

Short-term Assessment (Mitigated Scenario) (Tier 2)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s) Short-term Assessment (Tier 2)		RSP Emission Rate (g/m ² -s) Short-term Assessment (Tier 2)		FSP Emission Rate (g/m ² -s) Short-term Assessment (Tier 2)	
									Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
26D_01	AREA	816890.91	832447.87	112.38	112.37	0.5	115.08	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26D_02	AREA	816541.76	832581.87	112.38	112.37	0.5	110.89	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_01	AREA	816670.59	834880.02	87.45	45.04	3.0	180	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_02	AREA	816652.56	834834.98	46.74	54.19	3.0	180	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_03	AREA	816701.34	834780.79	97.56	30.35	3.0	180	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_04	AREA	816238.45	834669.14	100.00	96.27	3.0	140.97	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_05	AREA	816462.64	834087.91	65.83	100.10	3.0	159.95	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_06	AREA	816496.96	833993.88	45.50	46.14	3.0	159.95	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_07	AREA	816956.93	832130.11	112.38	112.37	3.0	131.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_08	AREA	817710.64	832974.72	86.41	64.15	3.0	158.44	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_09	AREA	817755.35	832992.39	27.80	32.67	3.0	158.44	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_10	AREA	816077.47	834412.77	100.00	96.27	3.0	165.6	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_11	AREA	816243.28	834985.36	100.00	96.27	3.0	140.97	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_12	AREA	816712.33	833598.32	78.52	100.00	3.0	175.2	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_13	AREA	816595.89	833234.83	33.94	120.69	3.0	106	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_14	AREA	816607.76	833196.13	86.76	98.61	3.0	106	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_15	AREA	817259.19	832437.55	120.69	120.70	3.0	170.21	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_16	AREA	817771.78	833939.04	94.05	94.00	3.0	107.02	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_17	AREA	816489.97	832980.94	79.10	31.19	3.0	108.26	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_18	AREA	817498.48	832901.91	134.74	63.52	3.0	167.31	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_19	AREA	816502.16	833488.80	196.82	44.92	3.0	94.77	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_20	AREA	817092.42	832258.60	94.05	94.00	3.0	131.08	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_21	AREA	816998.99	833179.56	56.95	164.08	3.0	106	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_22	AREA	816938.29	832886.69	120.70	120.69	3.0	112.79	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_23	AREA	816422.76	831986.50	112.38	112.37	3.0	156.89	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_24	AREA	816794.60	831945.56	112.38	112.37	3.0	131.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_25	AREA	818184.94	833932.54	63.12	140.06	3.0	164.8	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_26	AREA	816582.53	835287.22	96.27	100.00	3.0	114.16	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_27	AREA	816535.29	835309.67	68.16	54.63	3.0	115.36	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_28	AREA	816378.02	835355.05	37.14	162.70	3.0	117.03	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_29	AREA	816005.07	834262.79	31.19	79.10	3.0	125.14	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_30	AREA	816486.56	831520.22	31.19	79.10	3.0	153.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_31	AREA	816539.37	833232.79	79.10	31.19	3.0	94.4	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_32	AREA	816694.89	831815.25	94.05	94.00	3.0	125.91	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_33	AREA	818045.20	834074.66	96.27	100.00	3.0	90.49	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
26DH_34	AREA	816196.79	834155.63	31.19	79.10	3.0	134.7	07:00 - 19:00	1.723E-05	2.695E-06	8			

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term Assessment (Mitigated Scenario) (Tier 2 Central)

Source	Type	TSP Emission Rate (g/m ² -s)							RSP Emission Rate (g/m ² -s)							FSP Emission Rate (g/m ² -s)						
		Short-term Assessment (Tier 2 Central)							Short-term Assessment (Tier 2 Central)							Short-term Assessment (Tier 2 Central)						
		Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours			
31DH_01	AREA	817095.20	833925.98	20.00	110.00	3.0	120.36	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_02	AREA	817012.65	834012.89	102.02	92.02	3.0	109.18	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_03	AREA	817681.03	834127.10	45.14	25.67	3.0	159.42	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_04	AREA	817662.93	834174.35	75.94	50.60	3.0	159.42	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_05	AREA	817496.24	834518.53	76.27	76.27	3.0	113.44	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_06	AREA	817515.83	835030.94	56.44	58.81	3.0	148.91	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_07	AREA	817467.49	835001.79	36.12	92.76	3.0	148.91	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_08	AREA	816926.01	834414.30	93.43	83.43	3.0	178.05	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_09	AREA	816570.61	834607.16	93.43	68.43	3.0	93.4	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_10	AREA	817052.21	834402.43	72.29	82.29	3.0	179.99	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_11	AREA	817052.22	834319.50	30.00	40.00	3.0	179.31	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_12	AREA	818037.12	833757.42	75.38	55.38	3.0	103.35	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_13	AREA	817440.75	834302.34	51.27	56.27	3.0	136.57	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_14	AREA	816794.85	834776.66	57.12	57.12	3.0	94.55	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_15	AREA	817607.73	834709.43	76.27	76.27	3.0	175.52	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_16	AREA	817942.42	834425.75	92.76	92.76	3.0	167.16	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_17	AREA	817605.62	834826.10	92.76	92.76	3.0	166.74	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31DH_18	AREA	816818.53	835648.92	87.50	87.50	3.0	103.53	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
31SH_01	AREA	817099.81	833982.58	102.02	10.00	3.0	109.18	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_02	AREA	817191.40	833872.77	98.11	98.11	3.0	99.47	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_03	AREA	817638.78	834111.23	31.13	26.00	3.0	159.42	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_04	AREA	817546.20	834980.57	56.44	33.95	3.0	148.91	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_05	AREA	817506.77	834074.53	98.11	98.11	3.0	134.03	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_06	AREA	816925.66	834424.68	93.43	10.00	3.0	178.05	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_07	AREA	816639.27	834603.08	93.43	25.00	3.0	93.4	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_08	AREA	817062.42	834402.48	10.00	82.29	3.0	179.99	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_09	AREA	817062.44	834319.63	10.00	40.00	3.0	179.31	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_10	AREA	818017.41	833762.16	75.38	20.00	3.0	103.35	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_11	AREA	817426.75	834317.05	51.27	20.00	3.0	136.43	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_12	AREA	817389.50	834281.70	25.00	76.27	3.0	136.57	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
31SH_13	AREA	817087.28	834958.21	57.12	57.12	3.0	146.94	07:00 - 19:00														

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term Assessment (Mitigated Scenario) (Tier 2 East)

Source	Type	TSP Emission Rate (g/m ² -s)							RSP Emission Rate (g/m ² -s)							FSP Emission Rate (g/m ² -s)						
		Short-term Assessment (Tier 2 East)							Short-term Assessment (Tier 2 East)							Short-term Assessment (Tier 2 East)						
		X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
IN_1	AREA	817480.52	835338.52	32.93	32.73	3.0	151.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_2	AREA	817451.46	835323.03	59.70	32.76	3.0	151.93	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_3	AREA	817737.56	834542.25	76.27	36.27	0.5	148.07	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_4	AREA	817757.13	834510.88	76.27	40.00	0.5	148.07	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_5	AREA	817858.21	834693.07	32.76	92.76	3.0	152.05	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_6	AREA	817828.60	834677.16	55.00	92.76	3.0	152.05	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_7	AREA	817731.46	834926.83	62.76	92.76	3.0	150.5	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_8	AREA	817676.22	834895.82	30.00	92.76	3.0	150.5	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_9	AREA	817496.12	835309.34	92.76	60.00	3.0	151.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_10	AREA	817453.65	833607.54	98.11	98.11	3.0	94.65	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_11	AREA	818299.63	833723.08	75.38	60.38	3.0	98.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_12	AREA	818359.51	833713.62	75.38	15.00	3.0	98.93	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_13	AREA	818233.35	833845.52	75.38	75.38	3.0	93.76	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_14	AREA	817965.99	834385.46	54.81	54.81	3.0	167.37	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_15	AREA	817982.41	834332.47	40.00	140.00	3.0	168.06	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_16	AREA	817423.88	835522.62	92.76	92.76	3.0	164.85	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_17	AREA	817689.78	833891.62	98.11	48.11	3.0	110.49	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_18	AREA	817642.49	833909.39	98.11	50.00	3.0	110.49	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_19	AREA	817095.20	833925.98	20.00	110.00	3.0	120.36	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_20	AREA	817099.81	833982.58	102.02	10.00	3.0	109.18	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_21	AREA	817012.65	834012.89	102.02	92.02	3.0	109.18	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_22	AREA	818017.41	833762.16	75.38	20.00	3.0	103.35	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_23	AREA	818037.12	833757.42	75.38	55.38	3.0	103.35	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_24	AREA	817675.14	834743.29	76.27	76.27	0.5	170.5	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_25	AREA	817173.82	835277.05	90.16	100.16	0.5	151.57	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_26	AREA	817183.22	835282.07	10.00	100.16	0.5	151.57	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07								
IN_27	AREA	818437.64	833943.21	75.38	75.38	3.0	173.44	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_28	AREA	817806.62	834237.38	76.27	76.27	0.5	170.5	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_29	AREA	816851.70	835663.02	87.50	87.50	3.0	123.96	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07								
IN_30	AREA	817256.25	835163.44	57.12	57.12	0.5	146.94	07:00 - 19:00	4.067E-08	2.695E-												

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term Assessment (Mitigated Scenario) (Tier 2 South)

Source	Type	TSP Emission Rate (g/m ² -s)								RSP Emission Rate (g/m ² -s)								FSP Emission Rate (g/m ² -s)								
		Short-term Assessment (Tier 2 Sorth)								Short-term Assessment (Tier 2 Sorth)								Short-term Assessment (Tier 2 Sorth)								
		Working hours		Non-working hours		Working hours		Non-working hours		Working hours		Non-working hours		Working hours		Non-working hours		Working hours		Non-working hours		Working hours		Non-working hours		
IN_1	AREA	816537.38	833901.08	60.00	30.00	3.0	103.93	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_2	AREA	816539.94	833985.77	83.24	83.24	3.0	103.28	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_3	AREA	817511.12	834160.60	36.27	76.27	3.0	119.36	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_4	AREA	817530.92	834195.56	40.00	76.27	3.0	119.36	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_5	AREA	816721.20	833285.79	81.29	81.29	3.0	107.49	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_6	AREA	816619.43	833296.65	60.00	100.00	3.0	108.18	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_7	AREA	818243.43	833609.65	75.38	65.38	3.0	133.27	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_8	AREA	818291.15	833564.64	75.38	10.00	3.0	133.27	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_9	AREA	818068.10	833319.20	65.38	75.38	3.0	172.41	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_10	AREA	818003.07	833310.59	10.00	75.38	3.0	172.41	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_11	AREA	817571.39	833240.43	98.11	98.11	3.0	179.01	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_12	AREA	816667.98	834987.93	10.00	100.16	0.5	175.9	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_13	AREA	816758.58	834994.35	90.16	100.16	0.5	175.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_14	AREA	817601.45	834823.57	92.76	92.76	3.0	163.27	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06	2.913E-09	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_15	AREA	816794.42	834772.02	57.12	57.12	3.0	92.29	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_16	AREA	816949.61	833263.06	112.29	112.29	0.5	106.29	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_17	AREA	816818.53	835648.92	87.50	87.50	3.0	103.53	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07
IN_18	AREA	817293.29	833313.39	98.11	98.11	3.0	176.11	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07	1.723E-05	2.695E-06	8.149E-06	1.275E-06	1.240E-06	1.941E-07						

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2019 - Year 2030)

Short-term Assessment (Mitigated Scenario) (Tier 3-for ASR P1501)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)	
2047_1	AREA	816541.76	832581.87	112.38	112.37	0.5	110.89	07:00 - 19:00	8.149E-06	1.275E-06
2047_2	AREA	816607.76	833196.13	86.76	98.61	3.0	106	07:00 - 19:00	8.149E-06	1.275E-06
2047_3	AREA	816595.89	833234.83	33.94	120.69	3.0	106	07:00 - 19:00	8.149E-06	1.275E-06
2047_4	AREA	816502.16	833488.80	196.82	44.92	3.0	94.77	07:00 - 19:00	8.149E-06	1.275E-06
2047_5	AREA	816012.58	834396.11	33.00	96.27	3.0	165.6	07:00 - 19:00	8.149E-06	1.275E-06
2047_6	AREA	816005.07	834262.79	31.19	79.10	3.0	125.14	07:00 - 19:00	8.149E-06	1.275E-06
2047_7	AREA	816586.53	833202.21	86.76	22.08	3.0	106	07:00 - 19:00	1.924E-08	1.275E-06

Short-term Assessment (Mitigated Scenario) (Tier 3-for ASR A208, P240)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s)		RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)		Short-term Assessment (Tier 3)	
2145_1	AREA	816431.54	834055.80	96.27	100.00	3.0	99.97	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2145_2	AREA	816716.62	832351.06	120.70	120.69	0.5	113.81	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2145_3	AREA	816622.96	831867.34	93.91	31.02	0.5	125.91	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2145_4	AREA	816452.30	831917.25	112.15	37.08	3.0	156.89	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2145_5	AREA	816331.51	831829.11	31.19	79.10	3.0	153.34	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06

Short-term Assessment (Mitigated Scenario) (Tier 3-for ASR P1032)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)	
1032_1	AREA	816191.70	834943.54	33.00	96.27	3.0	140.97	07:00 - 19:00	8.149E-06	1.275E-06
1032_2	AREA	816607.76	833196.13	86.76	98.61	3.0	106	07:00 - 19:00	8.149E-06	1.275E-06
1032_3	AREA	816595.89	833234.83	33.94	120.69	3.0	106	07:00 - 19:00	8.149E-06	1.275E-06
1032_4	AREA	816541.76	832581.87	112.38	112.37	0.5	110.89	07:00 - 19:00	8.149E-06	1.275E-06
1032_5	AREA	816502.16	833488.80	196.82	44.92	3.0	94.77	07:00 - 19:00	8.149E-06	1.275E-06
1032_6	AREA	816005.07	834262.79	31.19	79.10	3.0	125.14	07:00 - 19:00	8.149E-06	1.275E-06
1032_7	AREA	816586.53	833202.21	86.76	22.08	3.0	106	07:00 - 19:00	1.924E-08	1.275E-06

Short-term Assessment (Mitigated Scenario) (Tier 3- For ASR A310)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s)		RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)		Short-term Assessment (Tier 3)	
2245_1	AREA	816431.54	834055.80	96.27	100.00	3.0	99.97	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2245_2	AREA	817259.19	832437.55	39.83	120.70	3.0	170.21	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2245_3	AREA	817135.22	832322.10	94.05	94.00	3.0	123.26	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2245_4	AREA	816890.91	832447.87	112.38	112.37	0.5	115.08	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
2245_5	AREA	816489.97	832980.94	79.10	31.19	0.5	108.26	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06

Short-term Assessment (Mitigated Scenario) (Tier 3- For ASR A209)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s)		RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)		Short-term Assessment (Tier 3)	
26DH_05	AREA	816462.64	834087.91	65.83	100.10	3.0	159.95	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
26DH_06	AREA	816496.96	833993.88	45.50	46.14	3.0	159.95	07:00 - 19:				

Appendix 3.1 Calculation of Dust Emission Source

Construction Phase of HSKNDA (Year 2031 - Year 2036)

Short-term Assessment (Mitigated Scenario) (Tier 3-for ASR P606)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	TSP Emission Rate (g/m ² -s)		RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)		Short-term Assessment (Tier 3)	
									Working hours	Non-working hours	Working hours	Non-working hours
IN_1	AREA	816758.58	834994.35	90.16	100.16	0.5	175.9	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
IN_2	AREA	817194.42	833852.62	98.11	98.11	3.0	103.96	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_3	AREA	816704.51	834788.35	57.12	57.12	3.0	93.9	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_4	AREA	816469.40	834512.33	46.71	93.43	0.5	172.83	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
IN_5	AREA	818037.12	833757.42	75.38	55.38	3.0	103.35	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
IN_6	AREA	818017.41	833762.16	75.38	20.00	3.0	103.35	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_7	AREA	817426.75	834317.05	51.27	20.00	3.0	136.43	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_8	AREA	817440.75	834302.34	51.27	56.27	3.0	136.57	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
IN_9	AREA	817389.50	834281.70	25.00	76.27	3.0	136.57	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_10	AREA	817604.94	834821.19	92.76	92.76	3.0	162.55	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_11	AREA	816667.98	834987.93	10.00	100.16	0.5	175.9	07:00 - 19:00	4.067E-08	2.695E-06	1.924E-08	1.275E-06
IN_12	AREA	816818.53	835648.92	87.50	87.50	3.0	103.53	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06
IN_13	AREA	816804.00	834075.68	112.29	112.29	0.5	106.29	07:00 - 19:00	1.723E-05	2.695E-06	8.149E-06	1.275E-06

Short-term Assessment (Mitigated Scenario) (Tier 3-for ASR A702)

Source	Type	X1	Y1	X2	Y2	Height (m)	Width / Angle	Working Hour	RSP Emission Rate (g/m ² -s)	
									Short-term Assessment (Tier 3)	
									Working hours	Non-working hours
31DH_01	AREA	817095.20	833925.98	20.00	110.00	3.0	120.36	07:00 - 19:00	8.149E-06	1.275E-06
T3DH_01	AREA	817090.47	833985.82	102.02	9.63	3.0	109.18	07:00 - 19:00	8.149E-06	1.275E-06
31DH_12	AREA	818037.12	833757.42	75.38	55.38	3.0	103.35	07:00 - 19:00	8.149E-06	1.275E-06
31DH_13	AREA	817440.75	834302.34	51.27	56.27	3.0	136.57	07:00 - 19:00	8.149E-06	1.275E-06
31DH_14	AREA	816794.85	834776.66	57.12	57.12	3.0	94.55	07:00 - 19:00	8.149E-06	1.275E-06
31DH_16	AREA	817942.42	834425.75	92.76	92.76	3.0	167.16	07:00 - 19:00	8.149E-06	1.275E-06
31DH_18	AREA	816818.53	835648.92	87.50	87.50	3.0	103.53	07:00 - 19:00	8.149E-06	1.275E-06
31SH_01	AREA	817099.81	833982.58	102.02	10.00	3.0	109.18	07:00 - 19:00	1.924E-08	1.275E-06
31SH_02	AREA	817191.40	833872.77	98.11	98.11	3.0	99.47	07:00 - 19:00	1.924E-08	1.275E-06
31SH_10	AREA	818017.41	833762.16	75.38	20.00	3.0	103.35	07:00 - 19:00	1.924E-08	1.275E-06
31SH_11	AREA	817426.75	834317.05	51.27	20.00	3.0	136.43	07:00 - 19:00	1.924E-08	1.275E-06
31SH_12	AREA	817389.50	834281.70	25.00	76.27	3.0	136.57	07:00 - 19:00	1.924E-08	1.275E-06
31D_02	AREA	816763.99	834995.81	100.16	100.16	0.5	173.69	07:00 - 19:00	8.149E-06	1.275E-06

Particle Size Distribution of Heavy Construction and Spoil Handling Activities

Particle Size, μm	Average Particle Size (μm)	Percentage %
2.5	1.25	7.0
5	3.75	20.0
10	7.50	20.0
15	12.50	18.0
30	22.50	35.0

Reference: Section 13.2.4-4, AP42

Particle Size, μm	Cumulative % \leq Stated Size (Uncontrolled)
2.5	5.3
5	20
10	35
15	48
30	74

Remark:

Particulate size distribution of various processes are extracted and presented as above, thus Method 1 of particle dry deposition is applied in AERMOD.

Appendix 3.1 Active Works Area in Each Contract

Contract No.	Sub-total Area	Site Formation Works			Area per Month m ² / month
		From	To	Months	
AW - P1	2,146.19	1-Jan-19	31-Dec-21	36	60
AW - P2 - a	33,373.36	1-Jun-21	31-Dec-24	42	795
AW - P2 - b	5,200.96	1-Jun-20	30-May-21	12	433
AW - P3 - a	291,747.00	1-Apr-24	31 Dec 2026 for Development Sites	33	8841
AW - P3 - b	170,203.04	1-Apr-24	31 Dec 2029 for Road P1	69	2467
S1C1	122,434.84	1-Jul-22	30-Jun-25	36	3401
S2C1 - a1	454,597.25	1-Jan-26	31-Dec-28	36	12628
S2C1 - a2 (DCS Site 4-18)	14,002.00	1-Jan-27	31-Dec-29	36	389
S2C1 - b	524,428.54	1-Jan-26	31-Dec-28	36	14567
S2C2	346,582.40	1-Jan-26	31-Dec-28	36	9627
S3C1 - a	221,612.50	1-Jan-31	31-Mar-34	39	5682
S3C1 - b	226,844.24	1-Jan-31	31-Mar-34	39	5817
S3C1 - c	391,274.07	1-Jan-31	31-Mar-34	39	10033
S3C2 - a	378,252.56	1-Oct-31	31-Mar-34	30	12608
S3C2 - b	261,856.99	1-Oct-31	31-Mar-34	30	8729
S3C3 - a	346,530.27	1-Oct-32	30-Sep-35	36	9626
S3C3 - b	117,438.89	1-Oct-32	30-Sep-35	36	3262
S4C1 - a	275,656.00	1-Jul-31	30-Jun-34	36	7657
S4C1 - b	309,758.47	1-Jul-31	30-Jun-34	36	8604

AECOMPROJECT
项目

HUNG SHUI KIU NEW DEVELOPMENT AREA PLANNING AND ENGINEERING STUDY - INVESTIGATION

CLIENT
业主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顾问公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顾问公司ISSUE/REVISION
修订

MR 单	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES 米

KEY PLAN
总图

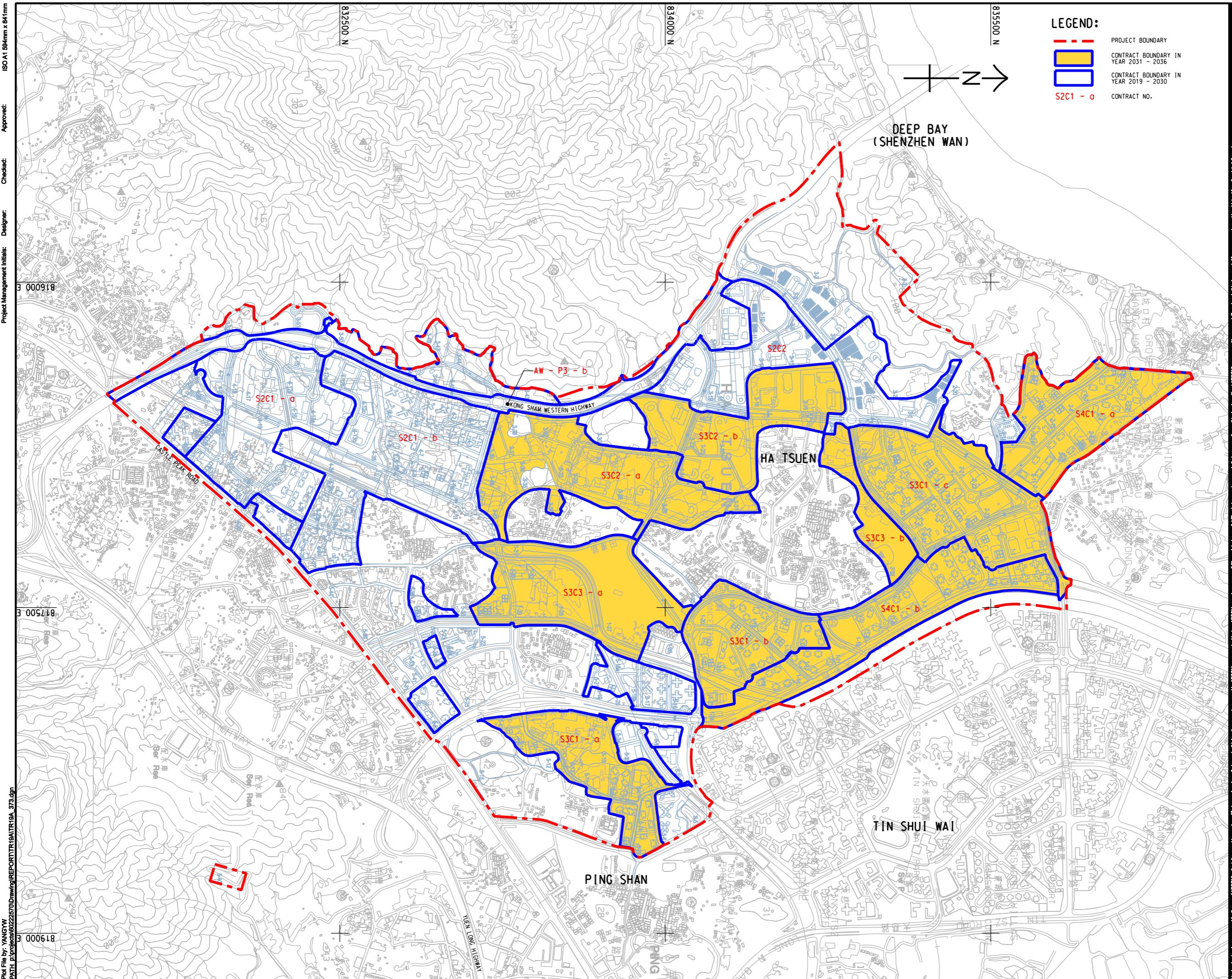
PROJECT NO. 项目编号	AGREEMENT NO. 同意书号
60222570	CE2/2011 (CE)

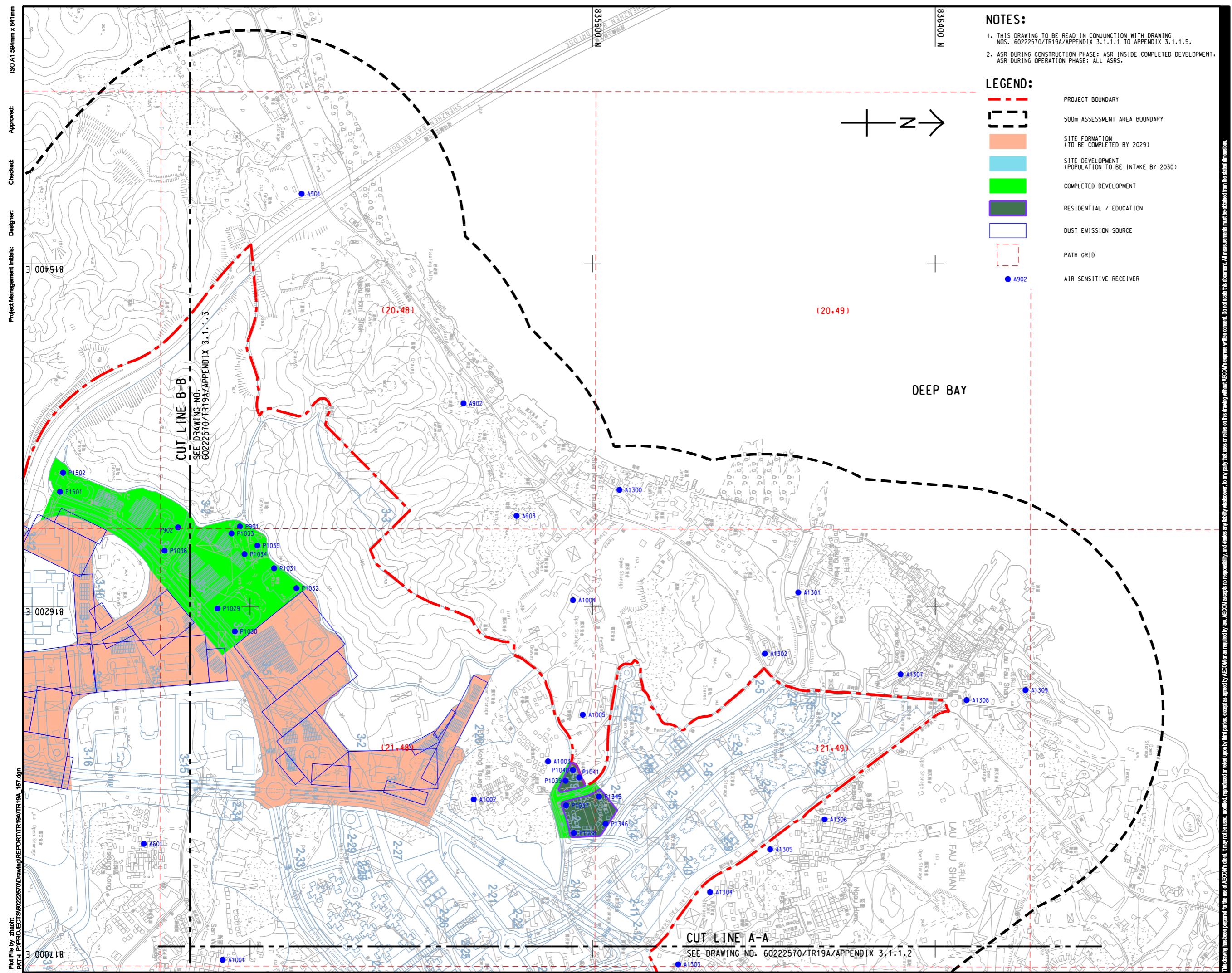
SHEET TITLE
图纸名称

CONTRACT PLAN

SHEET NUMBER
图纸序号

60222570/TR19A/APPENDIX 3.1.1





AECOM

PROJECT
项目

HUNG SHUI KIU NEW DEVELOPMENT AREA PLANNING AND ENGINEERING STUDY - INVESTIGATION



土木工程拓展署 Civil Engineering and Development Department

CONSULTANT

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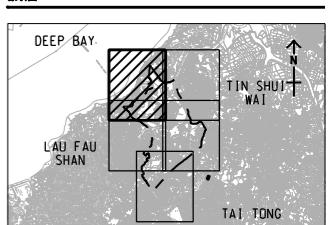
ISSUE/REVISION

修訂 日期 內

SCALE **DIMENSION UNIT**

比例 _____

A3 1 : 8000



PROJECT NO.

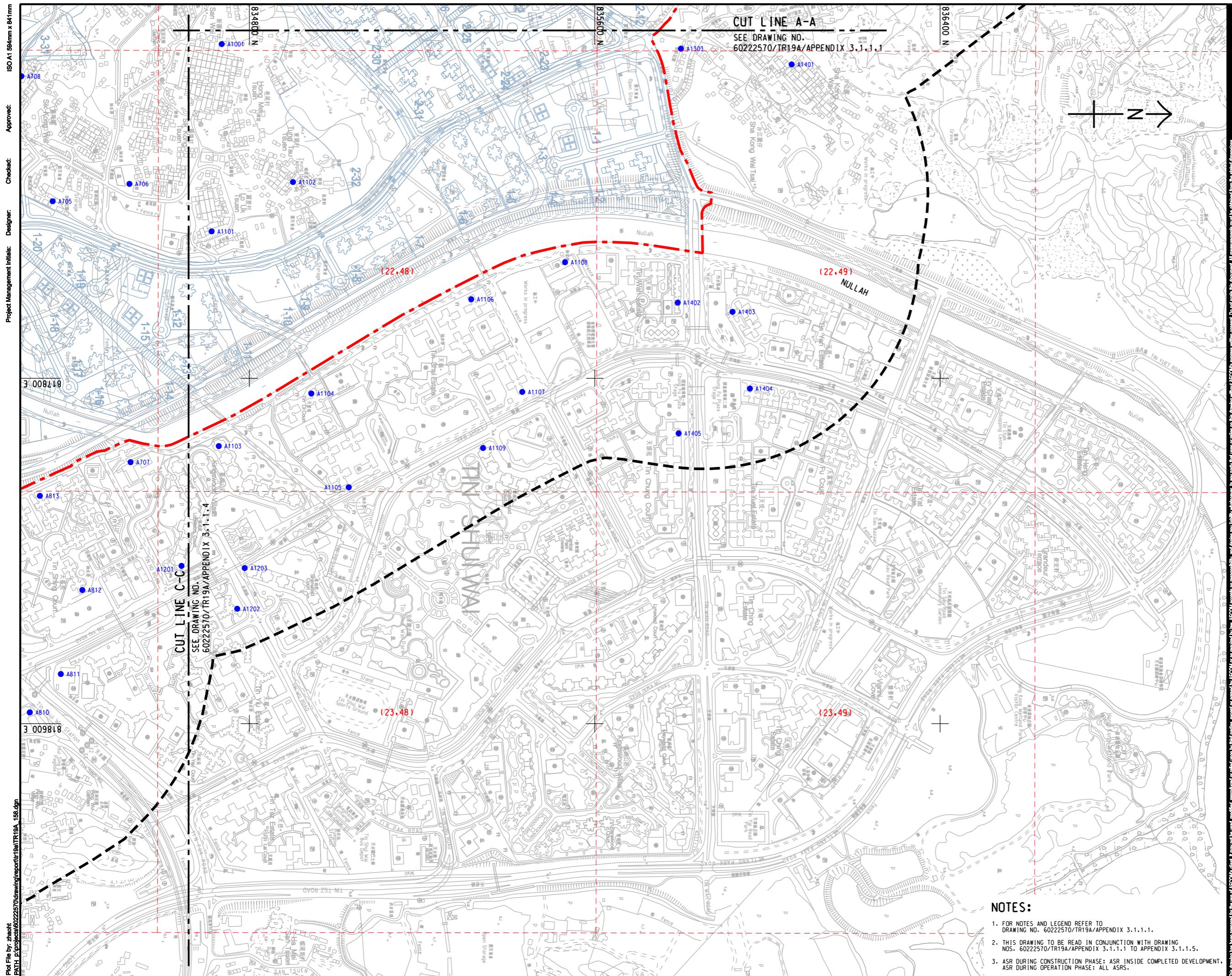
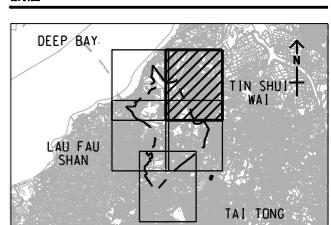
CE2/2011 (CE)

SHEET TITLE

**LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019 -2030
(UNMITIGATED SCENARIO AND
TIER 1)**

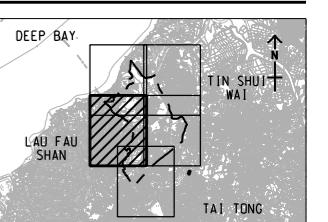
SHEET NUMBER

60222570/TR19A/APPENDIX 3.1.1.1





STATUS



1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60222570/TR19A/APPENDIX 3.1.1.1.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60222570/TR19A/APPENDIX 3.1.1.1 TO APPENDIX 3.1.1.5.
3. ASR DURING CONSTRUCTION PHASE: ASR INSIDE COMPLETED DEVELOPMENT.
ASR DURING OPERATION PHASE: ALL ASRS.

Approved:

Checked:

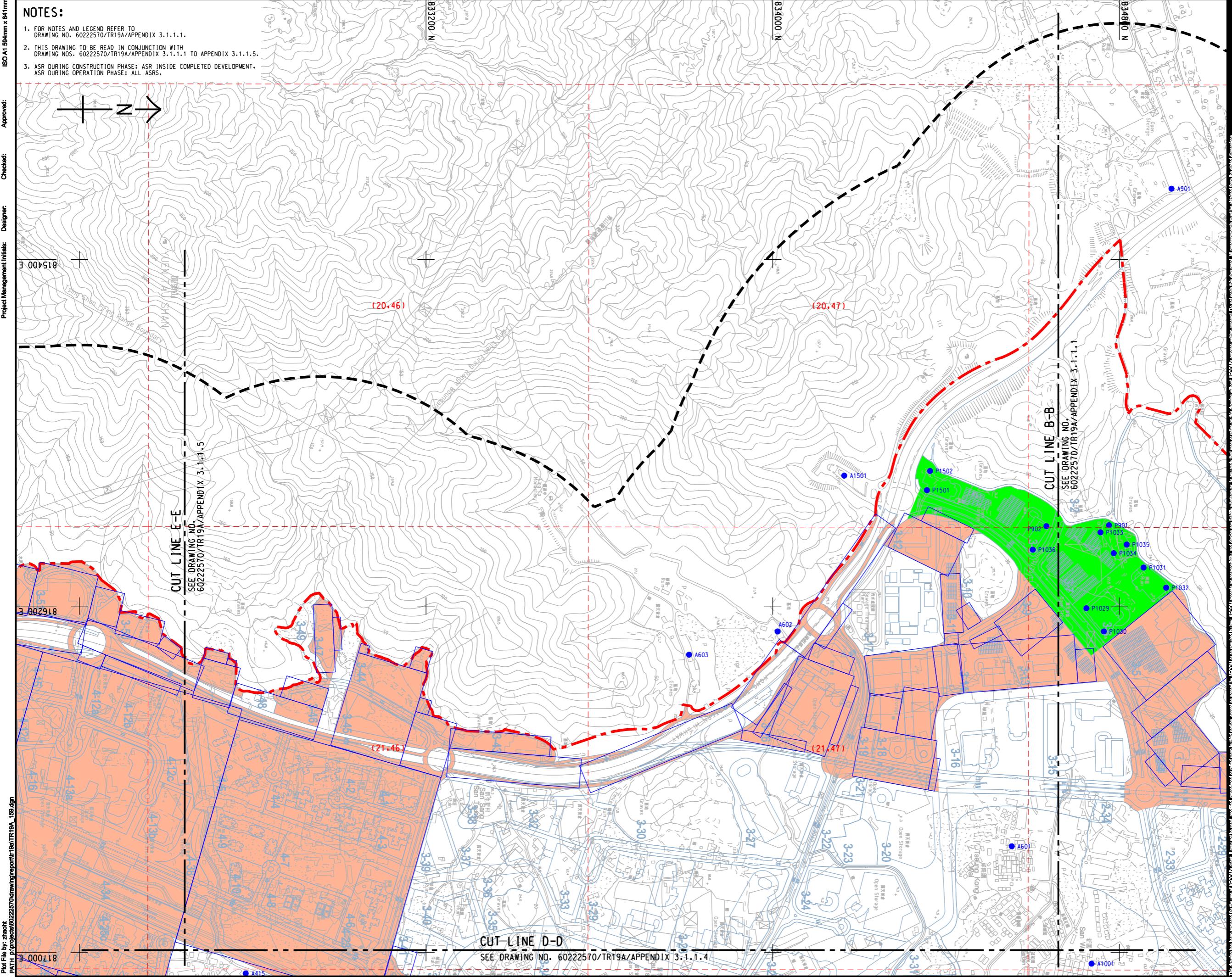
Designer:

Project Management Initiator:

CUT LINE E-E

SEE DRAWING NO.
60222570/TR19A/APPENDIX 3.1.1.5SEE DRAWING NO.
60222570/TR19A/APPENDIX 3.1.1.4CUT LINE B-B
SEE DRAWING NO.
60222570/TR19A/APPENDIX 3.1.1.1SEE DRAWING NO.
60222570/TR19A/APPENDIX 3.1.1.4

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Civil Engineering and Development Department

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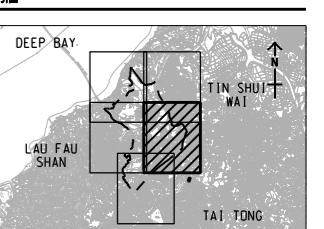
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分判工程顾问公司ISSUE/REVISION
修订

MR 版次	DATE 日期	DESCRIPTION 内容摘要	CHK 校核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 8000	METRES 米

KEY PLAN A3 1 : 300000



PROJECT NO.
项目编号
60222570 CE2/2011 (CE)

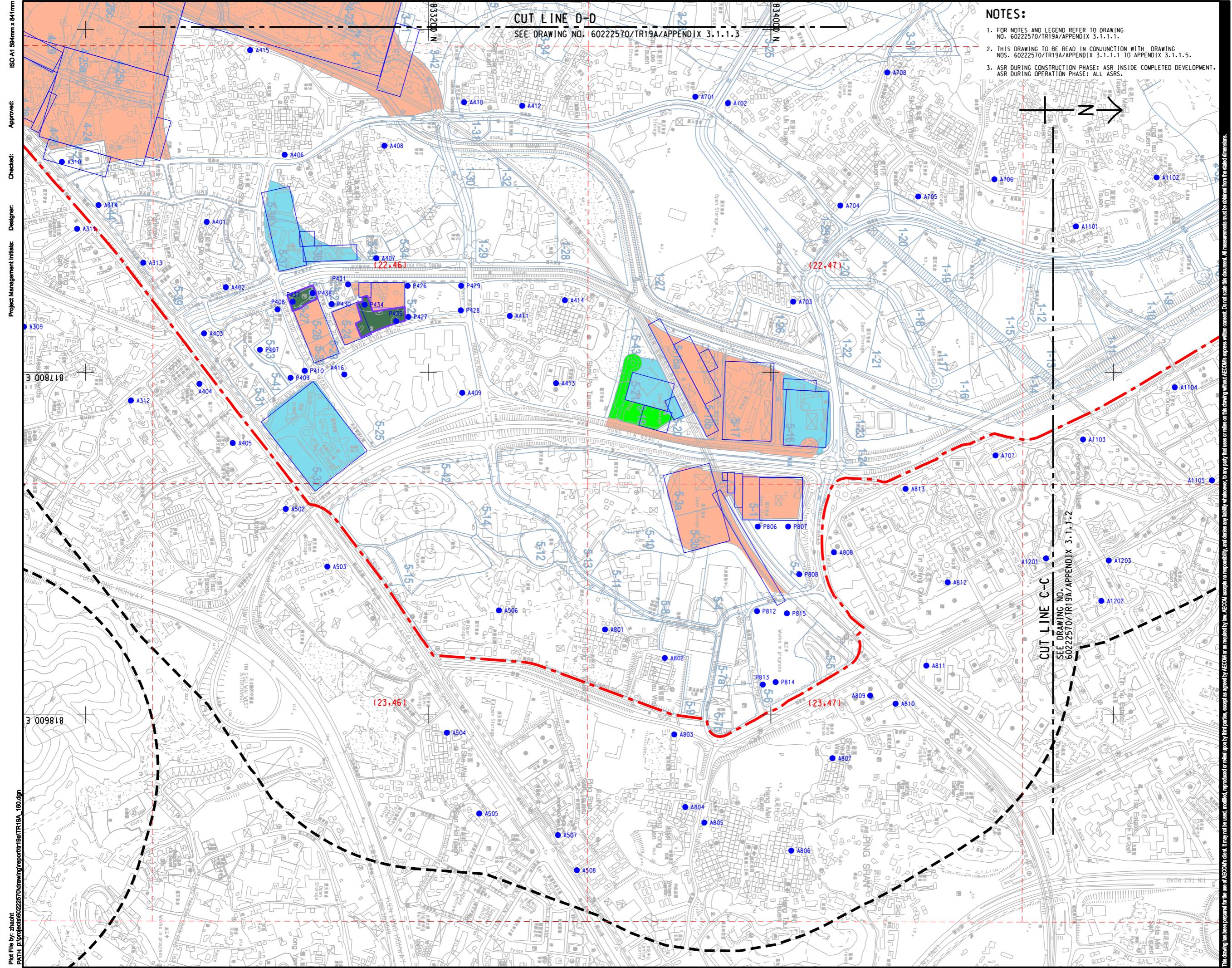
SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019-2030
(UNMITIGATED SCENARIO AND
TIER 1)

SHEET 4 OF 5

SHEET NUMBER
图纸页数

60222570/TR19A/APPENDIX 3.1.1.4



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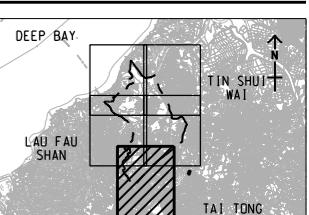
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单行STATUS
状态SCALE
比例尺

A3 1 : 8000 METRES

KEY PLAN A3 1 : 300000

PROJECT NO.
项目编号

60222570

AGREEMENT NO.
协议书号

CE2/2011 (CE)

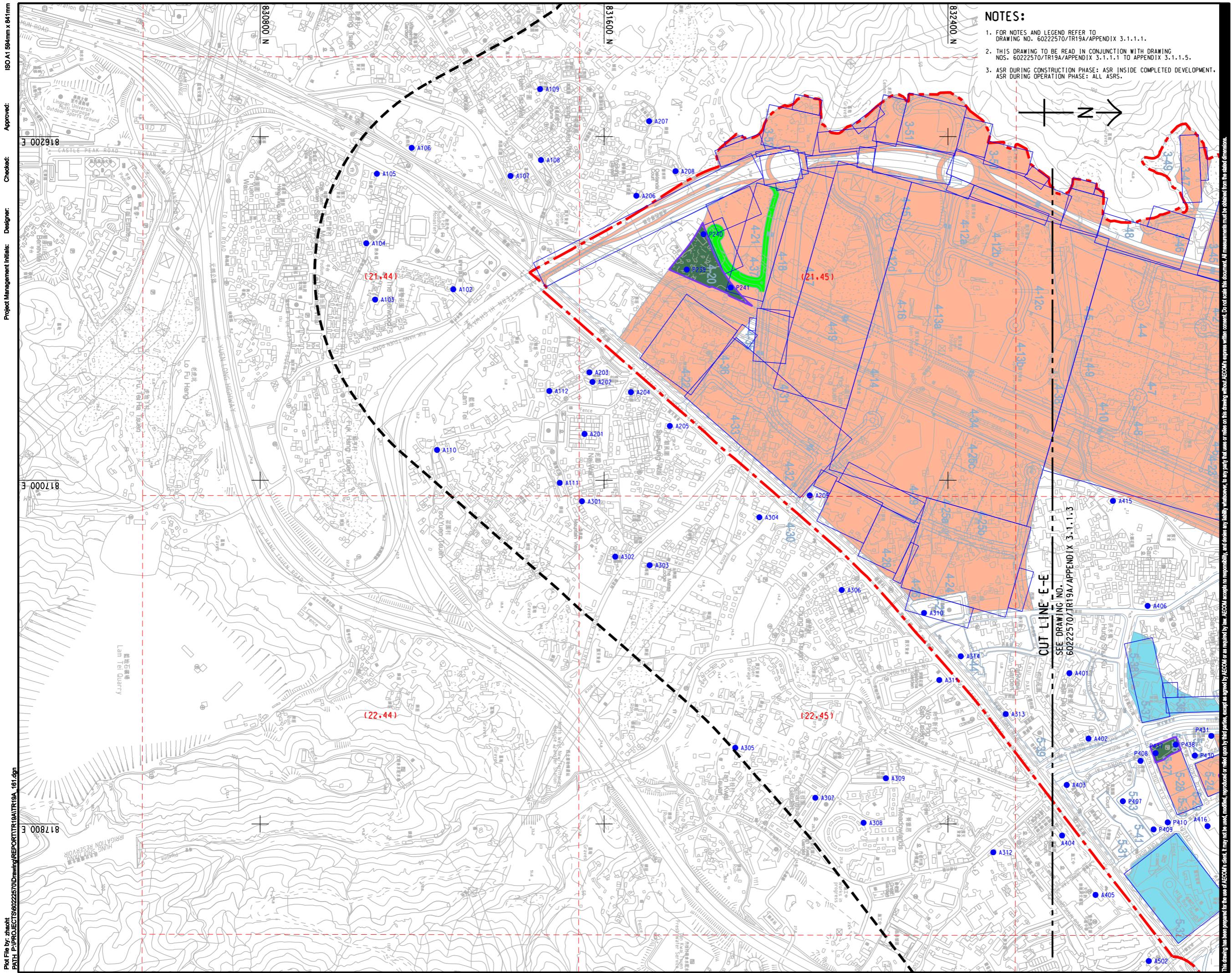
SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019-2030
(UNMITIGATED SCENARIO AND
TIER 1)

SHEET 5 OF 5

SHEET NUMBER
图纸页数

60222570/TR19A/APPENDIX 3.1.1.5



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PROJECT
项目

HUNG SHUI KIU NEW DEVELOPMENT AREA PLANNING AND ENGINEERING STUDY - INVESTIGATION

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MR 单	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE 比例	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES 米

KEY PLAN
主要图

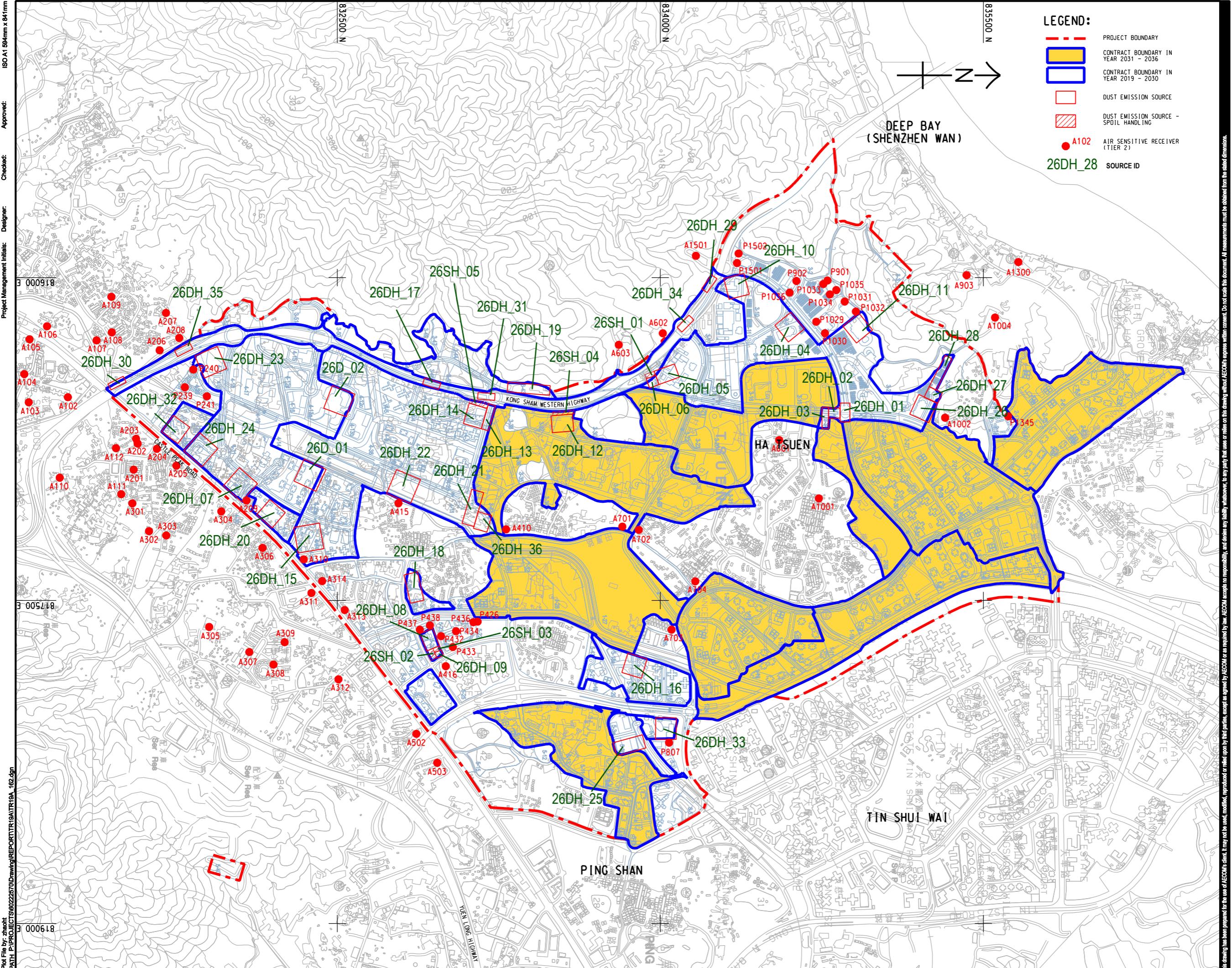
PROJECT NO. 项目编号	AGREEMENT NO. 协议编号
60222570	CE2/2011 (CE)

SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019-2030
(TIER 2)

SHEET NUMBER
图纸序号

60222570/TR19A/APPENDIX 3.1.2.1



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LEGEND:

- PROJECT BOUNDARY
- CONTRACT BOUNDARY IN YEAR 2031 - 2036
- CONTRACT BOUNDARY IN YEAR 2019 - 2030
- DUST EMISSION SOURCE (TIER 2)
- DUST EMISSION SOURCE (TIER 3 FOR A310)
- ▨ DUST EMISSION SOURCE - SPOIL HANDLING (TIER 2)
- AIR SENSITIVE RECEIVER (TIER 3)

2245_1 SOURCE ID

ISSUE/REVISION
修订

MR 版	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE
比例尺
A3 1 : 16000 METRES
DIMENSION UNIT
尺寸单位
公尺

KEY PLAN
总图

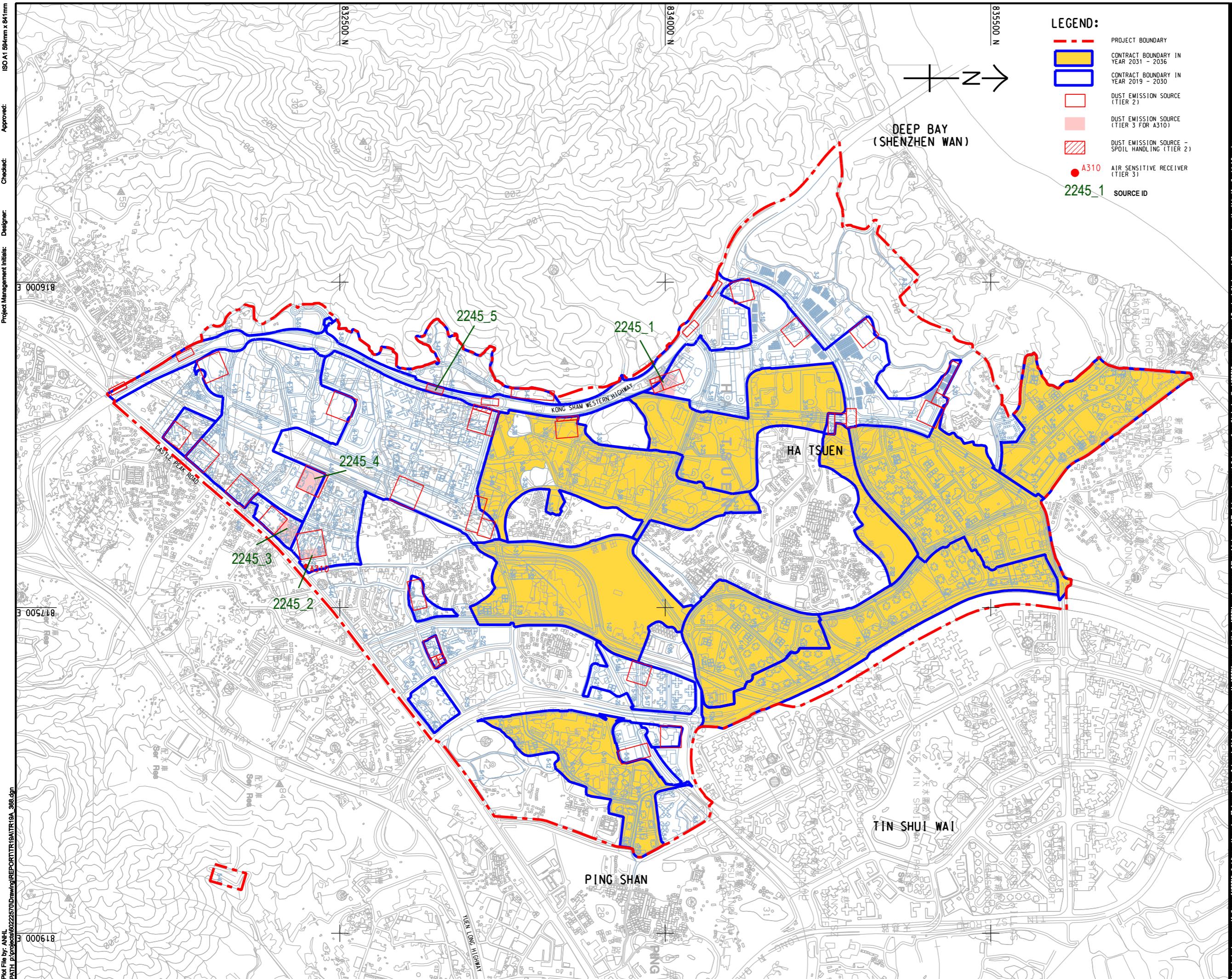
PROJECT NO.
项目编号
60222570 AGREEMENT NO.
CE2/2011 (CE)

SHEET TITLE
图纸名称

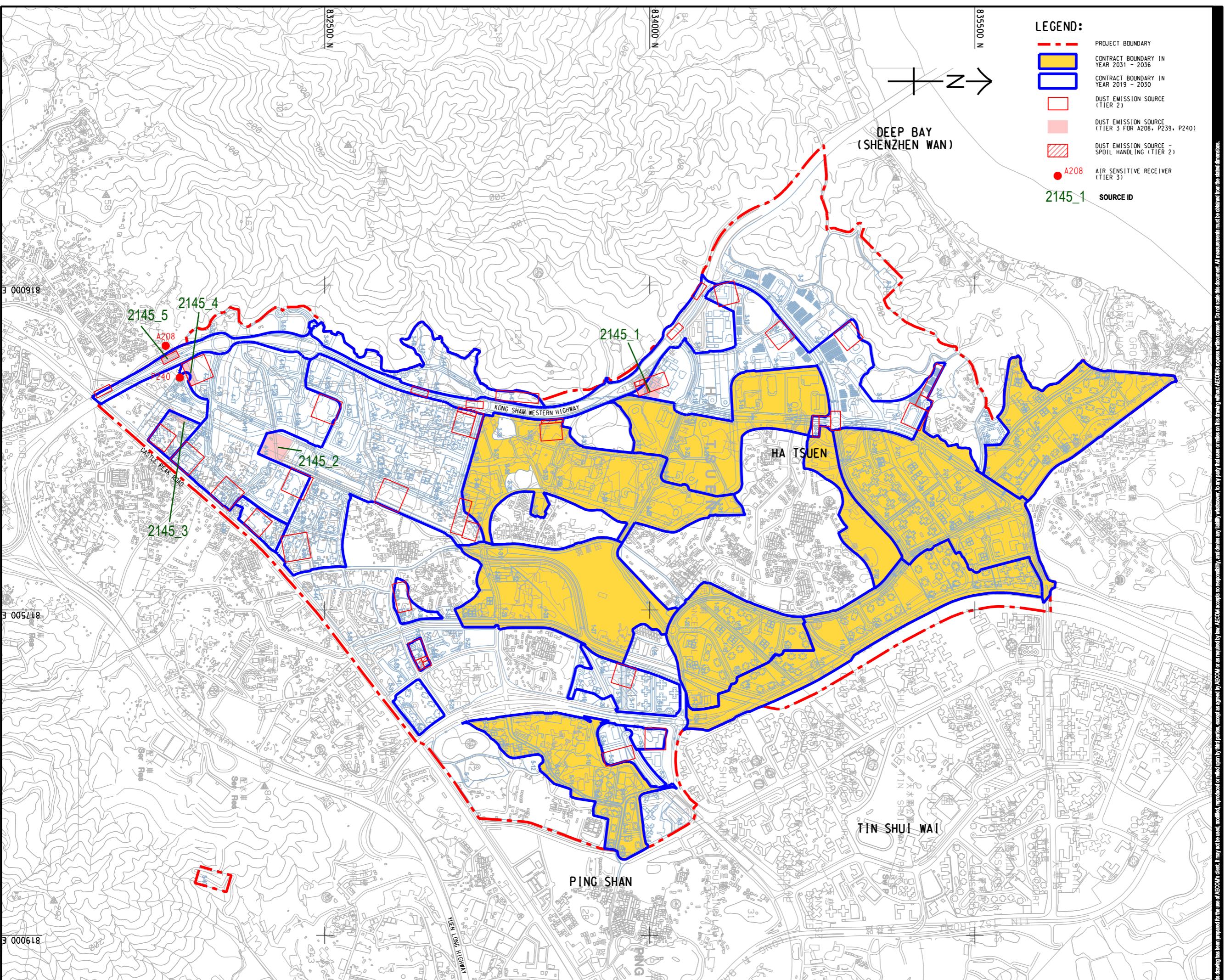
LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019 - 2030
(TIER 3 FOR A310)

SHEET NUMBER
图纸编号

60222570/TR19A/APPENDIX 3.1.2.2



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ISSUE/REVISION

MR	DATE	DESCRIPTION	CHK

STATUS

SCALE	DIMENSION UNIT
A3 1 : 16000	METRES

KEY PLAN

PROJECT NO.	AGREEMENT NO.
60222570	CE2/2011 (CE)

SHEET TITLE

LOCATION OF CONSTRUCTION DUST SOURCE IN YEAR 2019 - 2030 (TIER 3 FOR A208, P240)

SHEET NUMBER

60222570/TR19A/APPENDIX 3.1.2.3

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MR 单	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES 米

KEY PLAN
总图

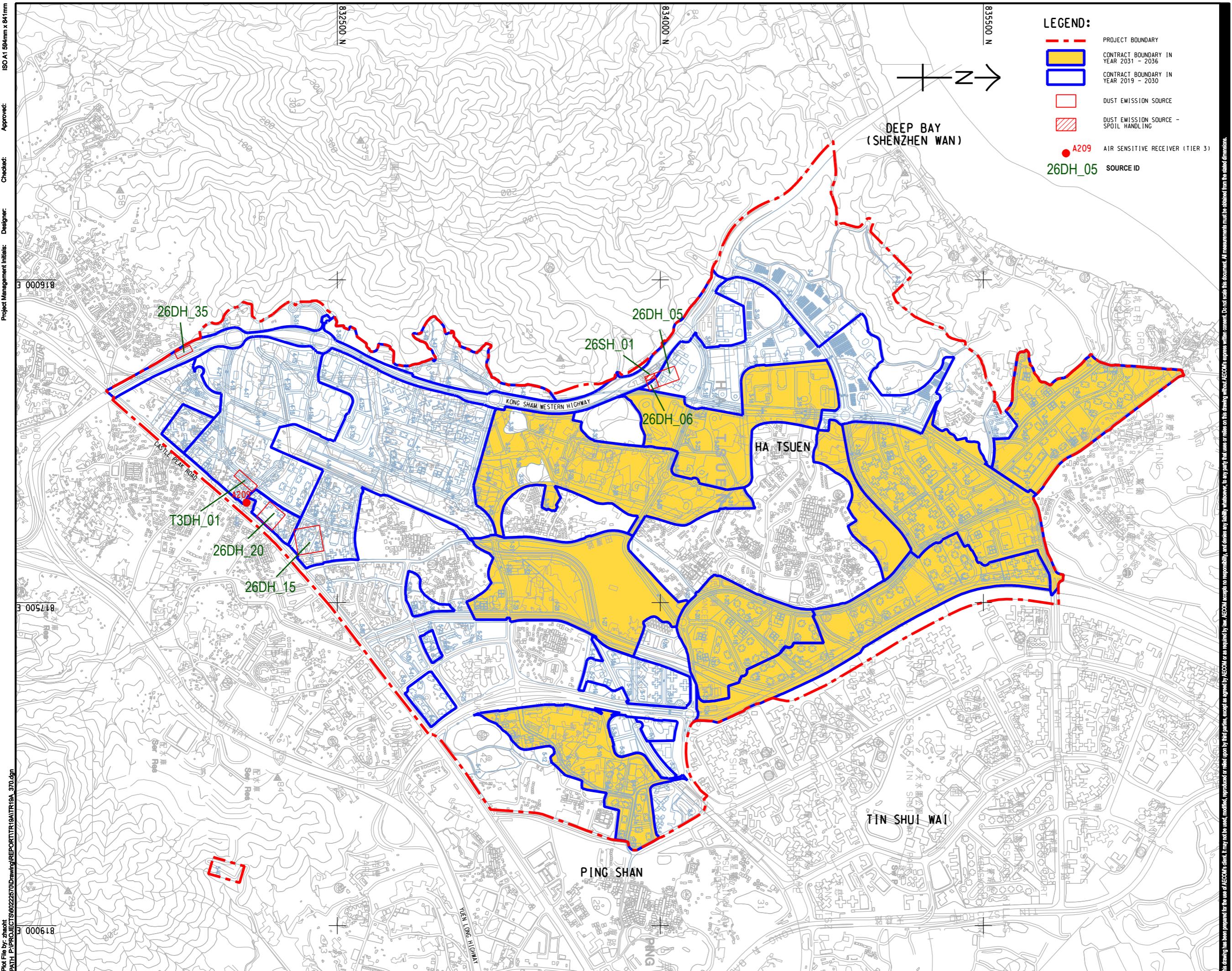
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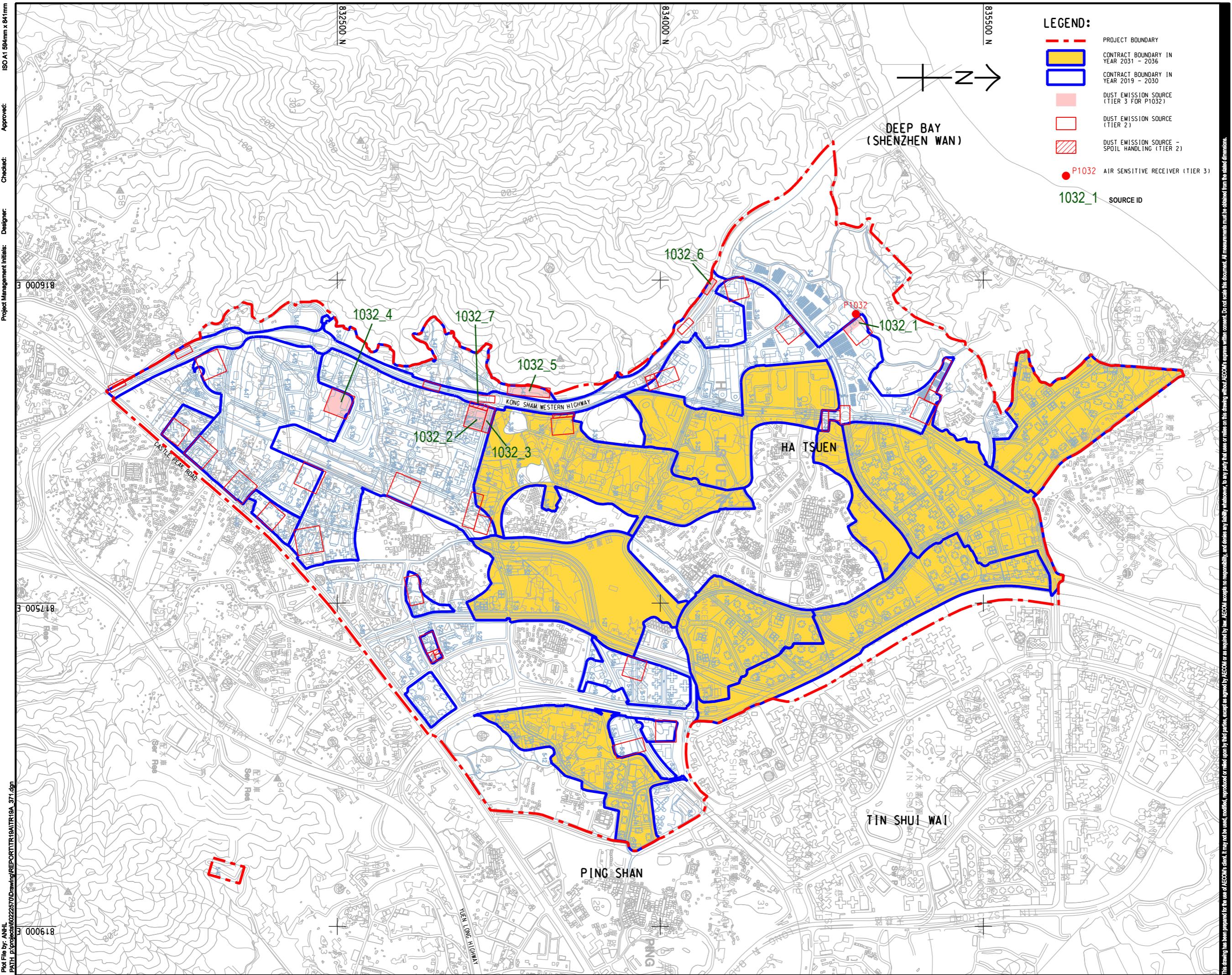
SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019 - 2036
(TIER 3 FOR A209)

SHEET NUMBER
图纸页数

60222570/TR19A/APPENDIX 3.1.2.4





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MR #	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES 米

KEY PLAN
总图

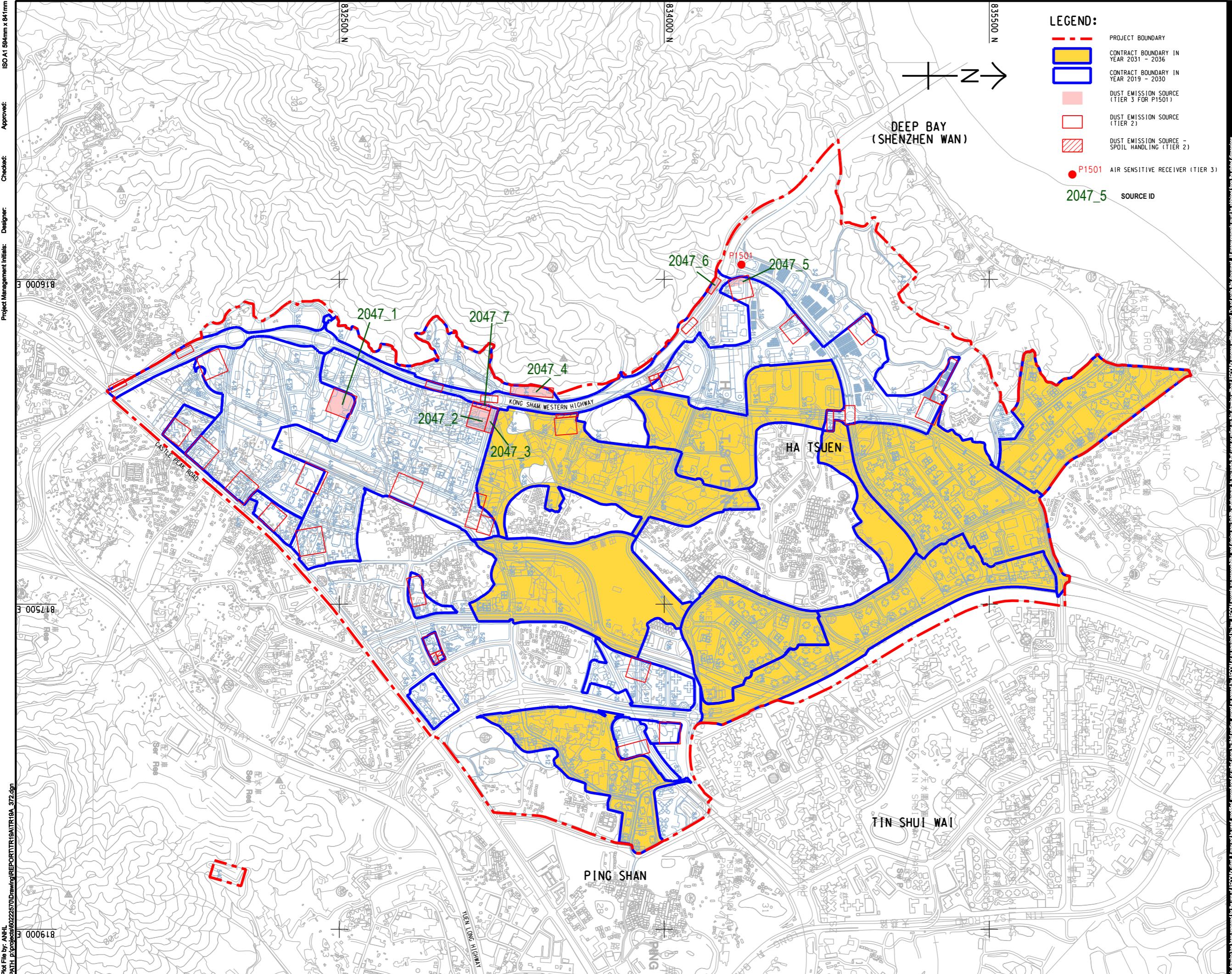
PROJECT NO. 项目编号	AGREEMENT NO. 协议书号
60222570	CE2/2011 (CE)

SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2019 - 2036
(TIER 3 FOR P1501)

SHEET NUMBER
图纸页数

60222570/TR19A/APPENDIX 3.1.2.6



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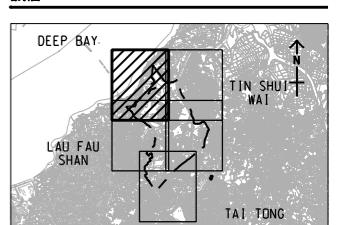
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分判工程顾问公司ISSUE/REVISION
修订

MR 版次	DATE 日期	DESCRIPTION 内函摘要	CHK 校核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 8000	METRES 米

KEY PLAN A3 1 : 300000



PROJECT NO.
项目编号
60222570 CE2/2011 (CE)

SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2031-2036
(UNMITIGATED SCENARIO AND
TIER 1)

SHEET 1 OF 5

SHEET NUMBER
图纸页数

60222570/TR19A/APPENDIX 3.1.4.1

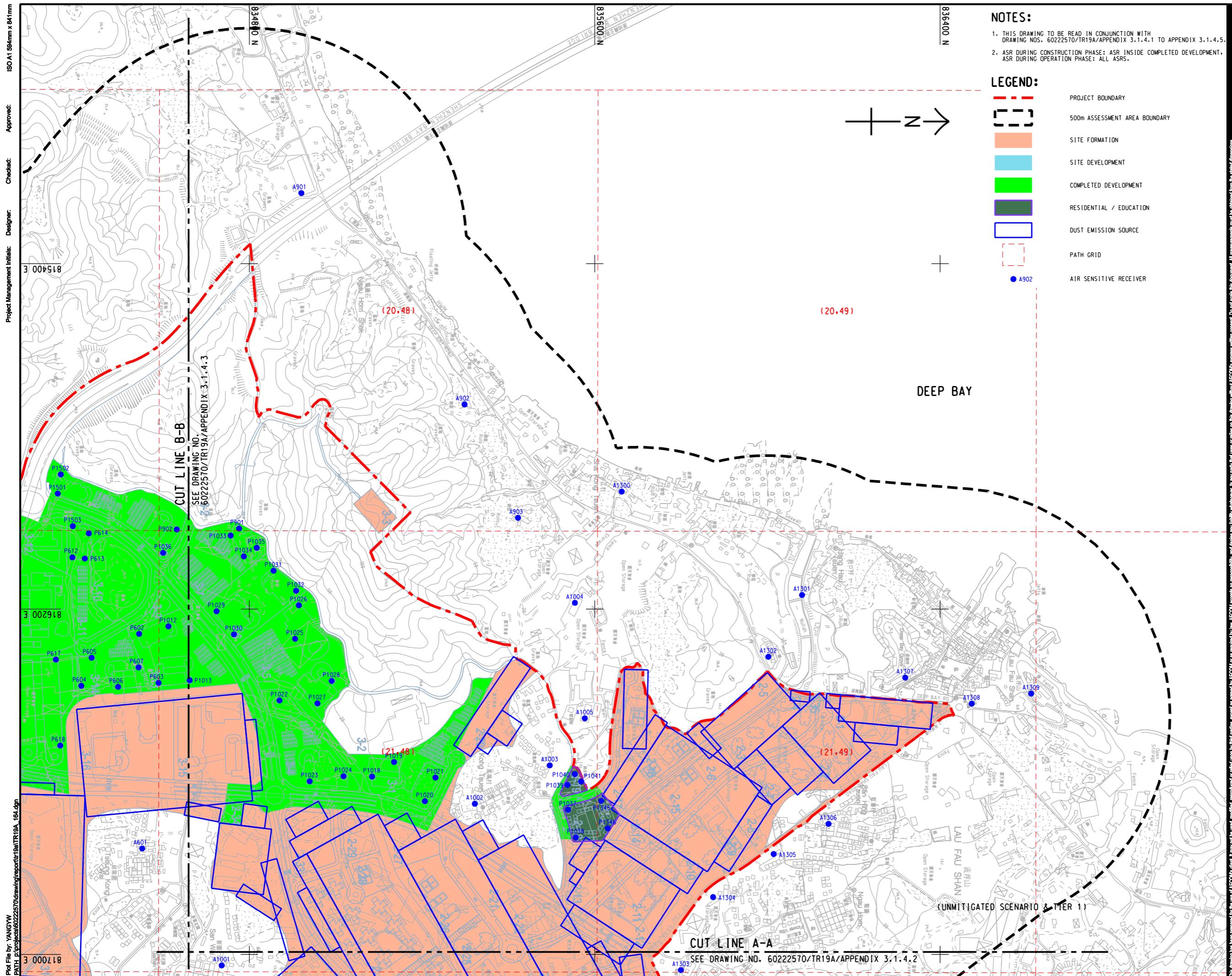
NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60222570/TR19A/APPENDIX 3.1.4.1 TO APPENDIX 3.1.4.5.
2. ASR DURING CONSTRUCTION PHASE: ASR INSIDE COMPLETED DEVELOPMENT.
ASR DURING OPERATION PHASE: ALL ASRS.

LEGEND:

	PROJECT BOUNDARY
	500m ASSESSMENT AREA BOUNDARY
	SITE FORMATION
	SITE DEVELOPMENT
	COMPLETED DEVELOPMENT
	RESIDENTIAL / EDUCATION
	DUST EMISSION SOURCE
	PATH GRID
	AIR SENSITIVE RECEIVER

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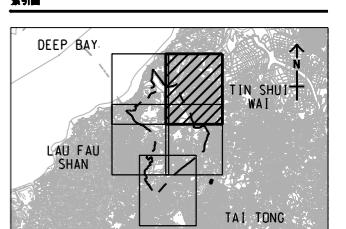




MR 版次	DATE 日期	DESCRIPTION 内容摘要	CHK 校核

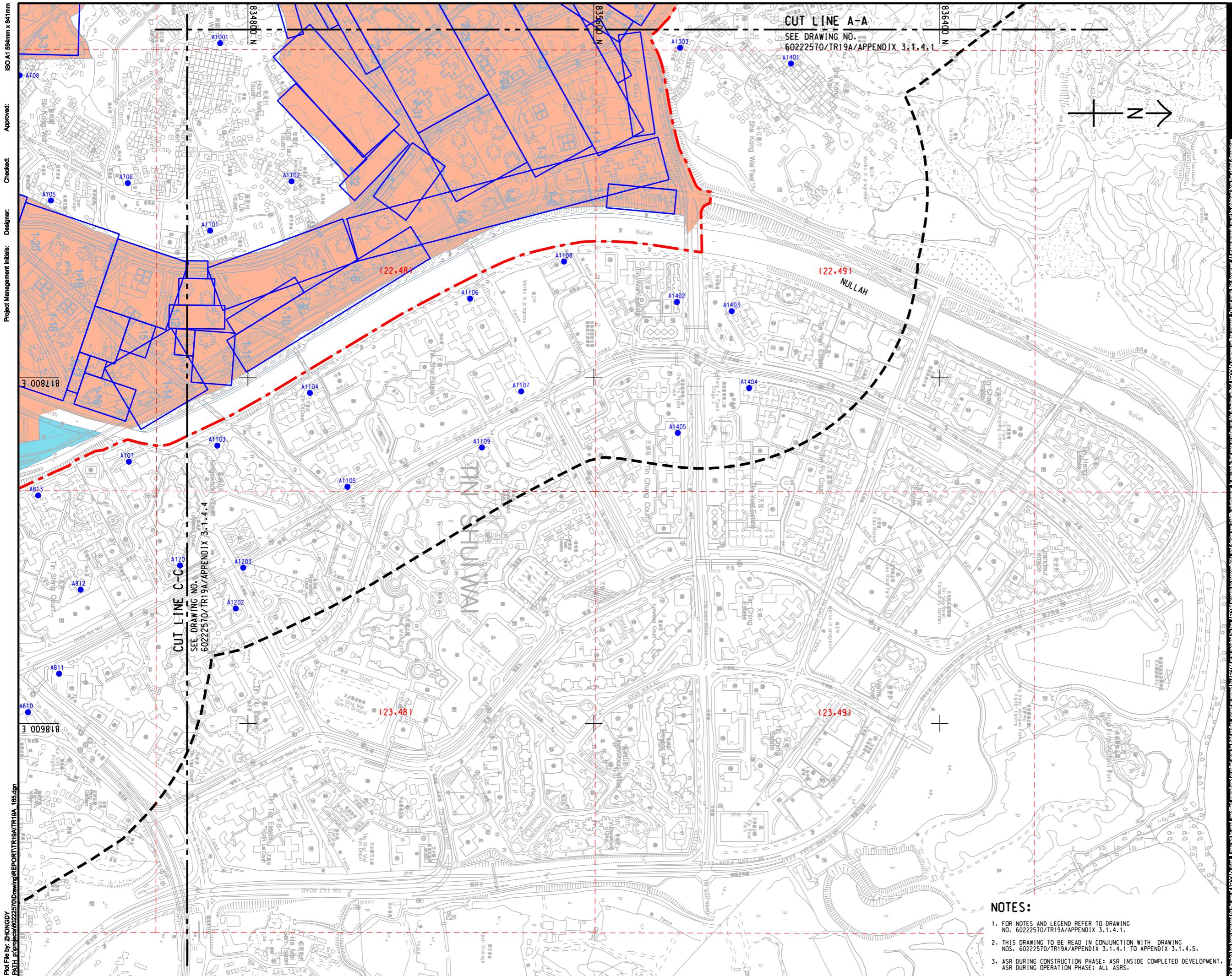
SCALE
比例尺
A3 1 : 8000 METRES

KEY PLAN A3 1 : 300000



PROJECT NO.
项目编号
6022570 CE2/2011 (CE)

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2031-2036
(UNMITIGATED SCENARIO AND
TIER 1)
SHEET 2 OF 5



NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60222570/TR19A/APPENDIX 3.1.4.1.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60222570/TR19A/APPENDIX 3.1.4.1 TO APPENDIX 3.1.4.5.
3. ASR DURING CONSTRUCTION PHASE: ASR INSIDE COMPLETED DEVELOPMENT.
ASR DURING OPERATION PHASE: ALL ASRS.

Approved:

Checked:

Designer:

Project Management Initiator:

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Approved:

Checked:

Designer:

Project Management Initiator:

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W

Approved:

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Designer:

Project Management Initiator:

E

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Designer:

Project Management Initiator:

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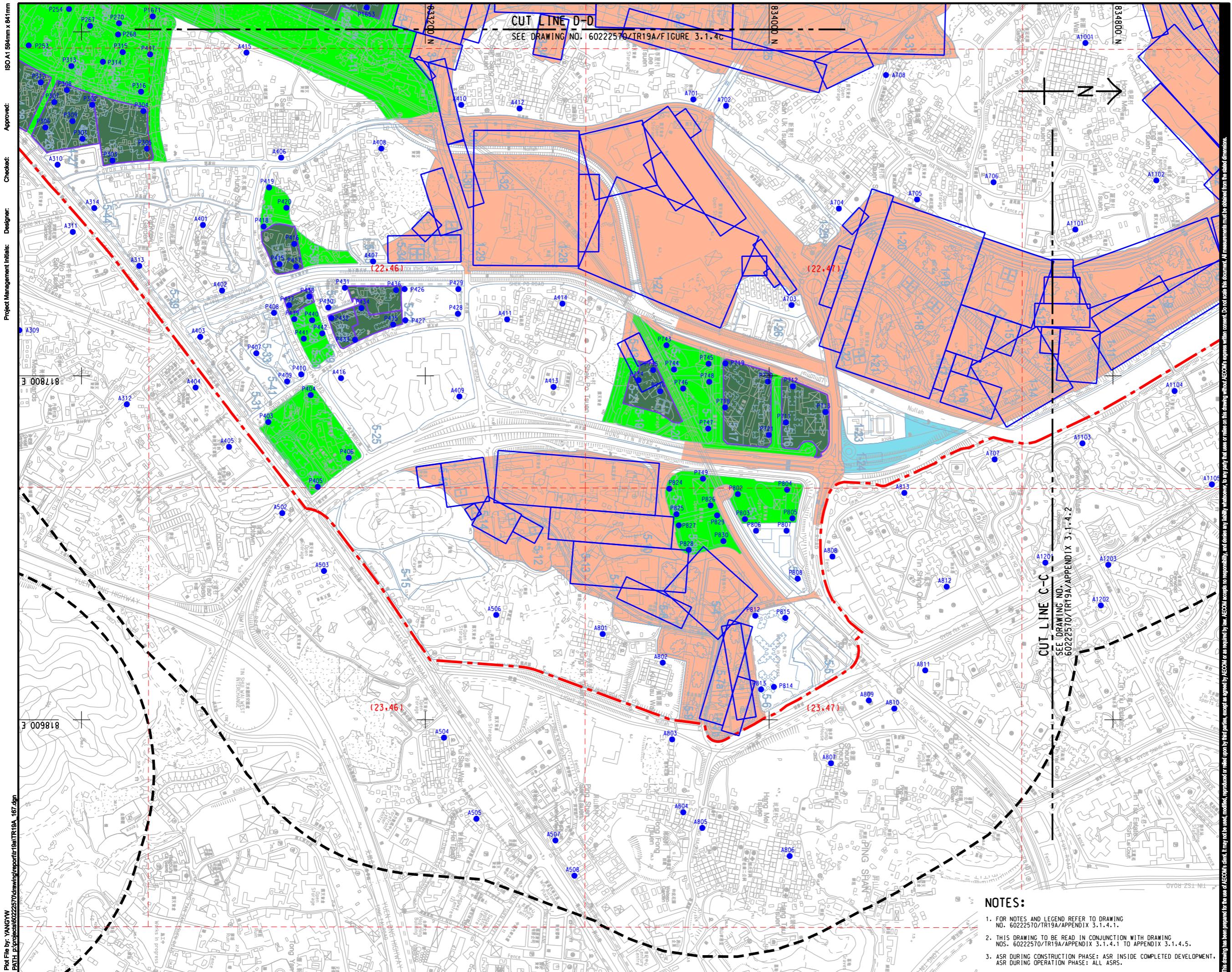
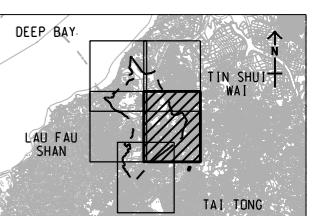
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Approved:

Checked:

Designer:

Project Management Initiator:



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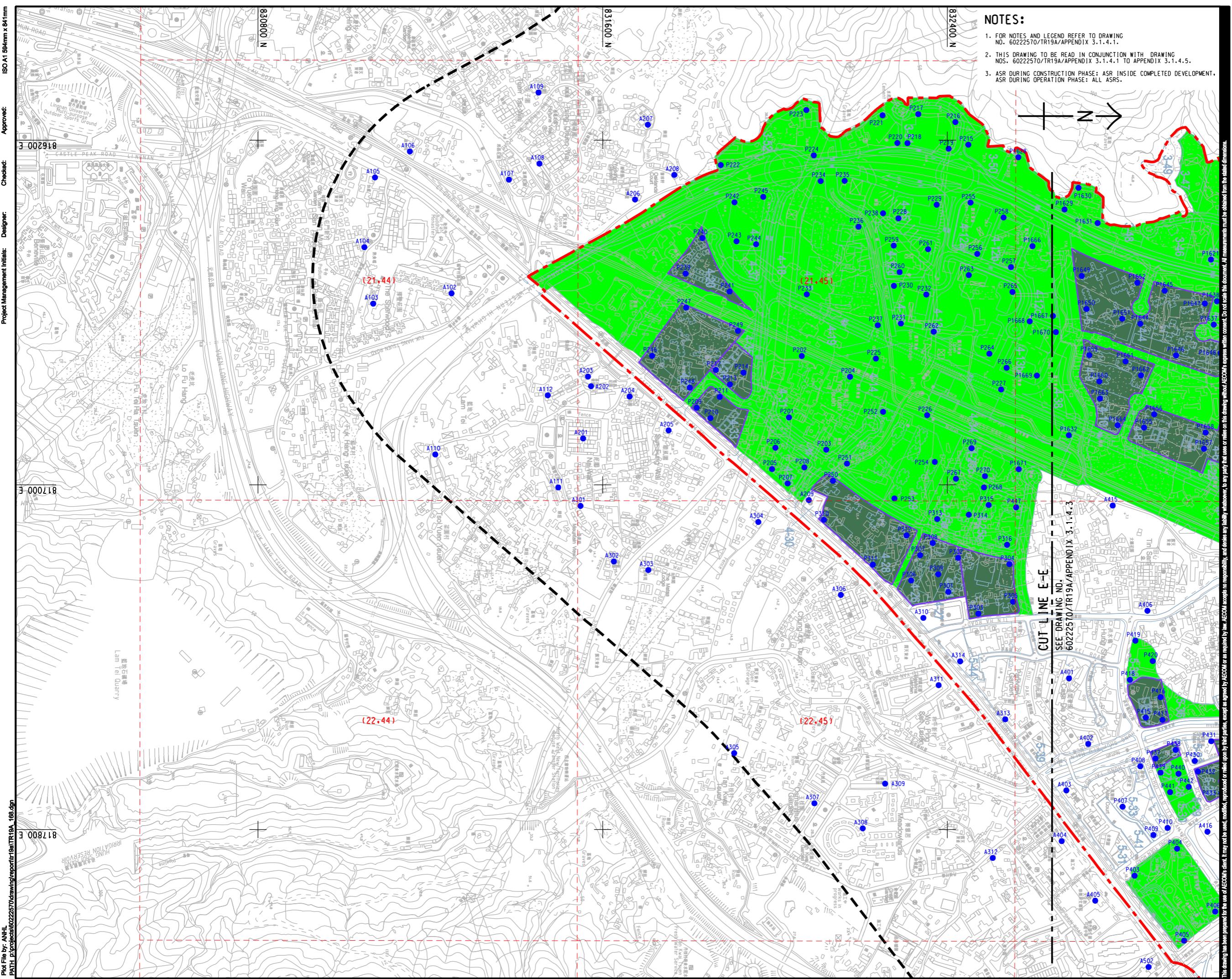
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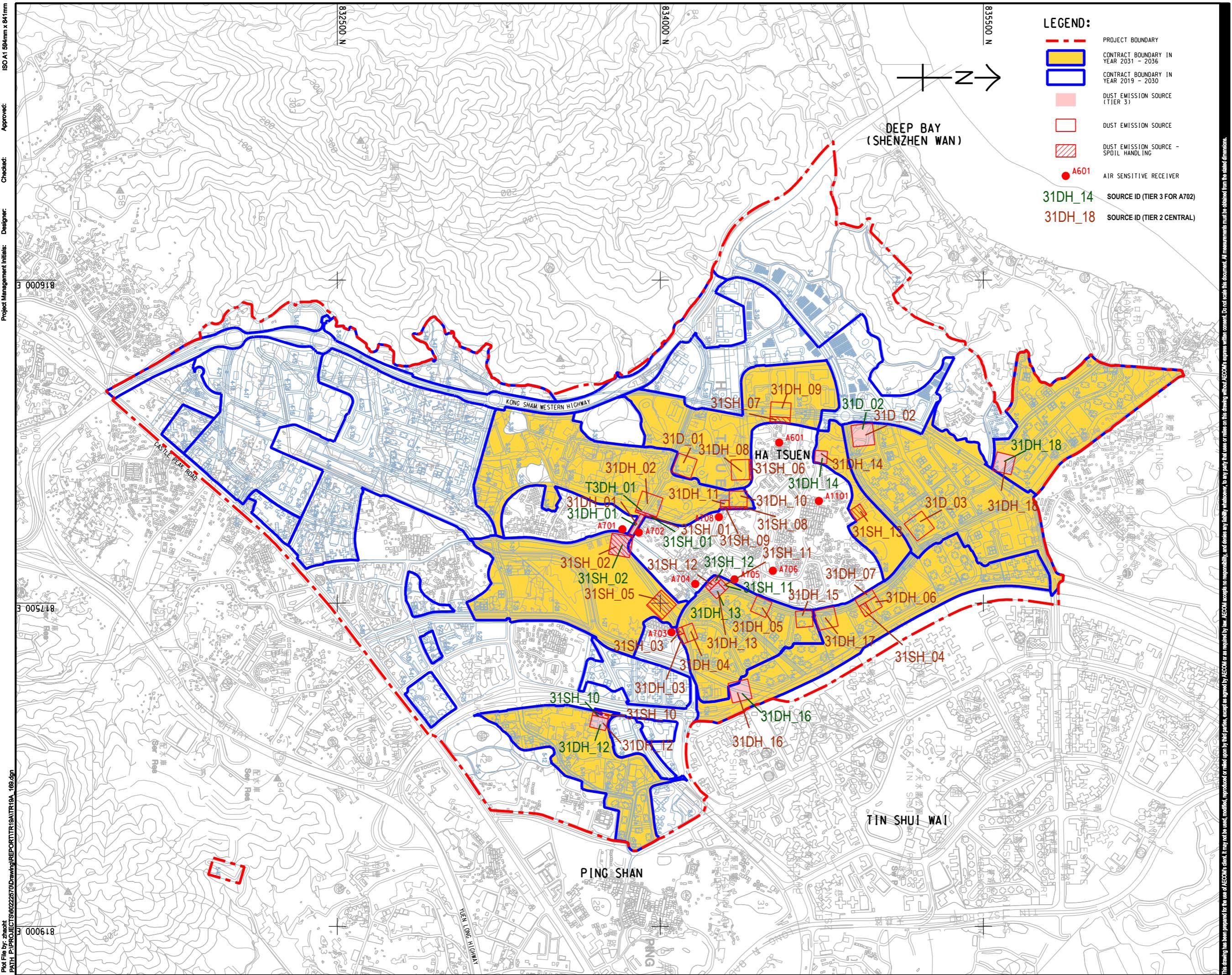
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NOTES:

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- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60222570/TR19A/APPENDIX 3.1.4.1 TO APPENDIX 3.1.4.5.
- ASR DURING CONSTRUCTION PHASE: ASR INSIDE COMPLETED DEVELOPMENT.
ASR DURING OPERATION PHASE: ALL ASRS.





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MR 单	DATE 日期	DESCRIPTION 内容摘要	CHK. 复核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES 米

KEY PLAN
总图

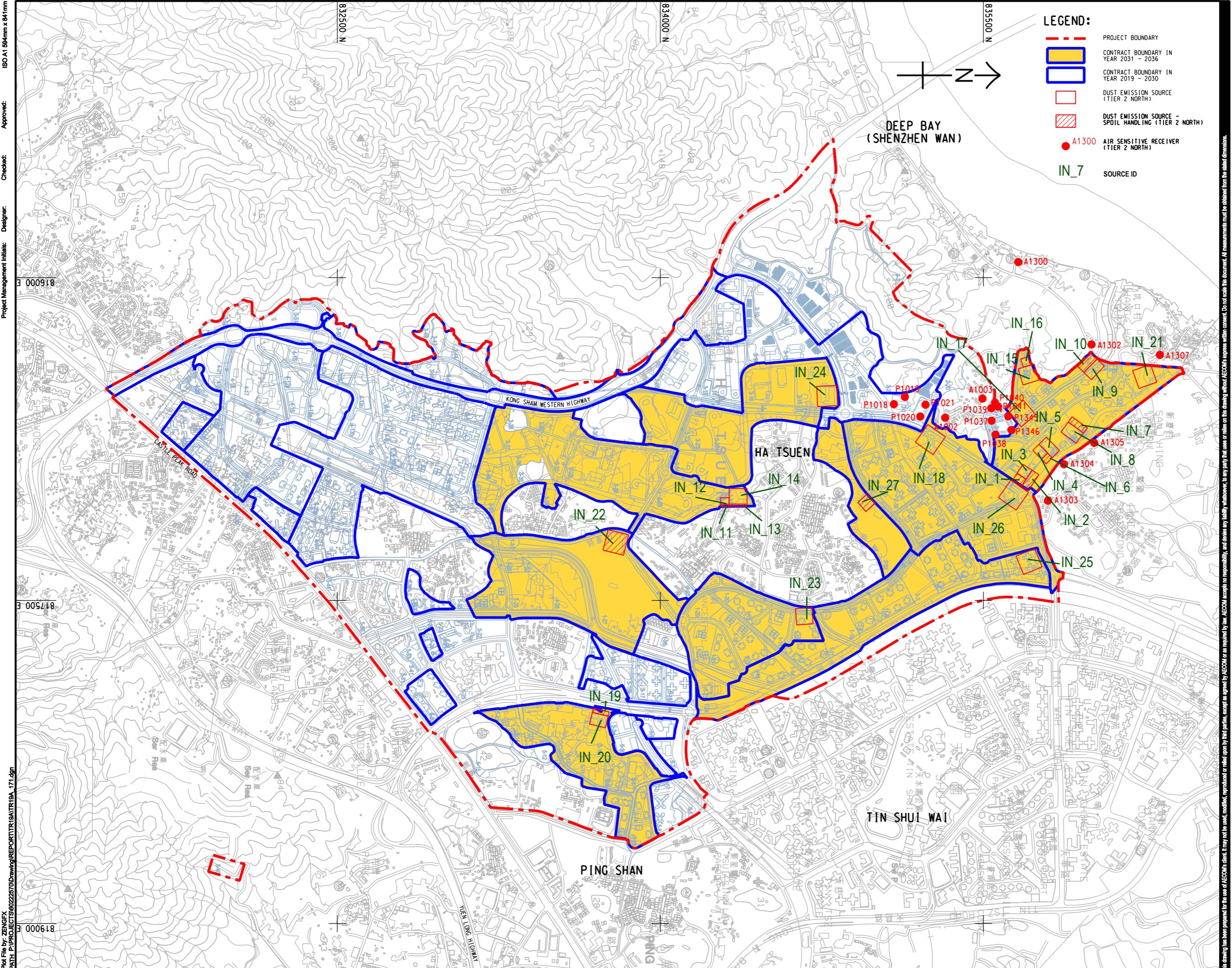
PROJECT NO. 项目编号	AGREEMENT NO. 协议书号
60222570	CE2/2011 (CE)

SHEET TITLE
图纸名称

LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2031 - 2036
(TIER 2 NORTH)

SHEET NUMBER
图纸序号

60222570/TR19A/APPENDIX 3.1.7



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MR 版次	DATE 日期	DESCRIPTION 内文摘要	CHK. 复核

STATUS
状态

SCALE 比例尺	DIMENSION UNIT 尺寸单位
A3 1 : 16000	METRES

KEY PLAN
基图

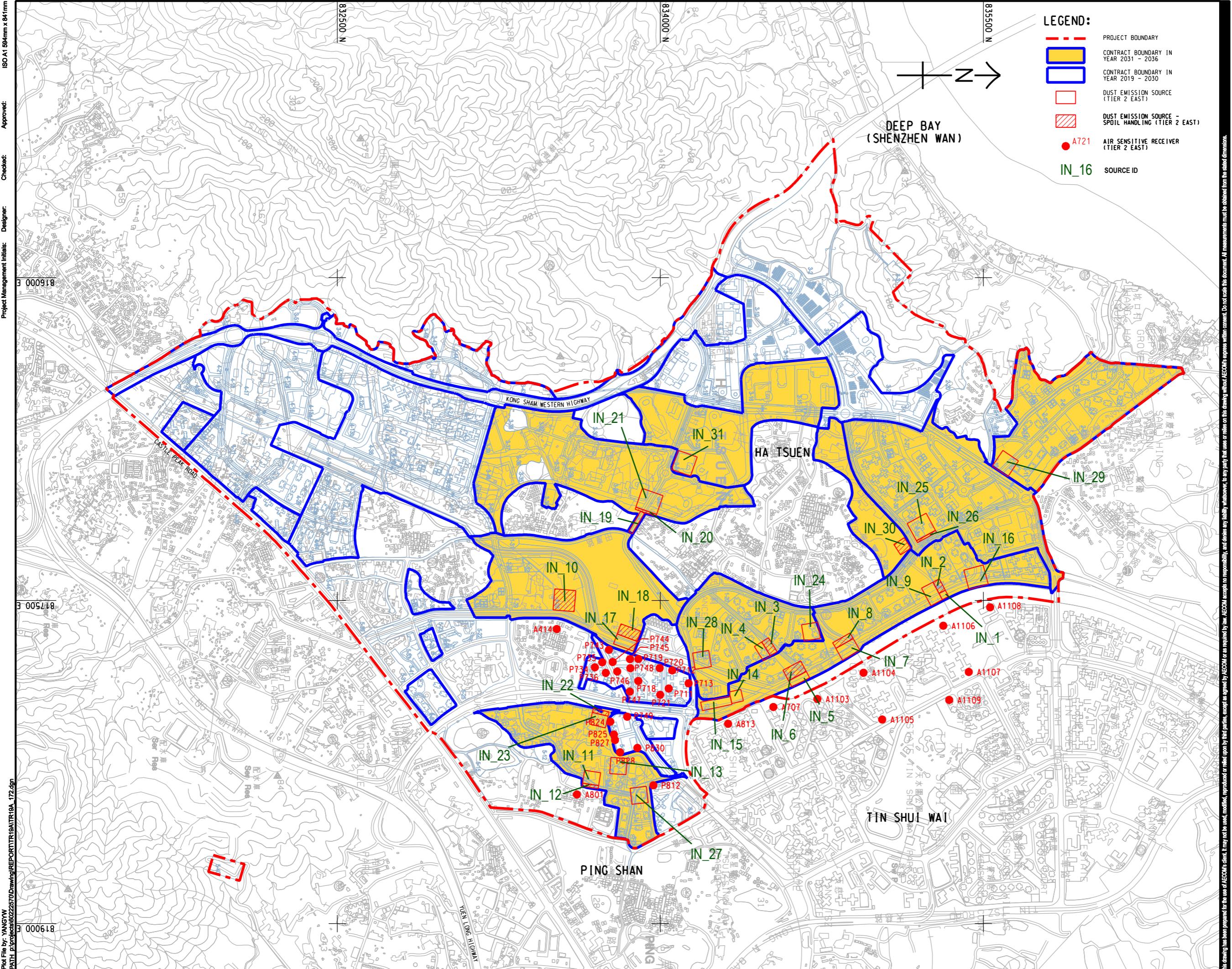
PROJECT NO. 项目编号	AGREEMENT NO. 协议编号
60222570	CE2/2011 (CE)

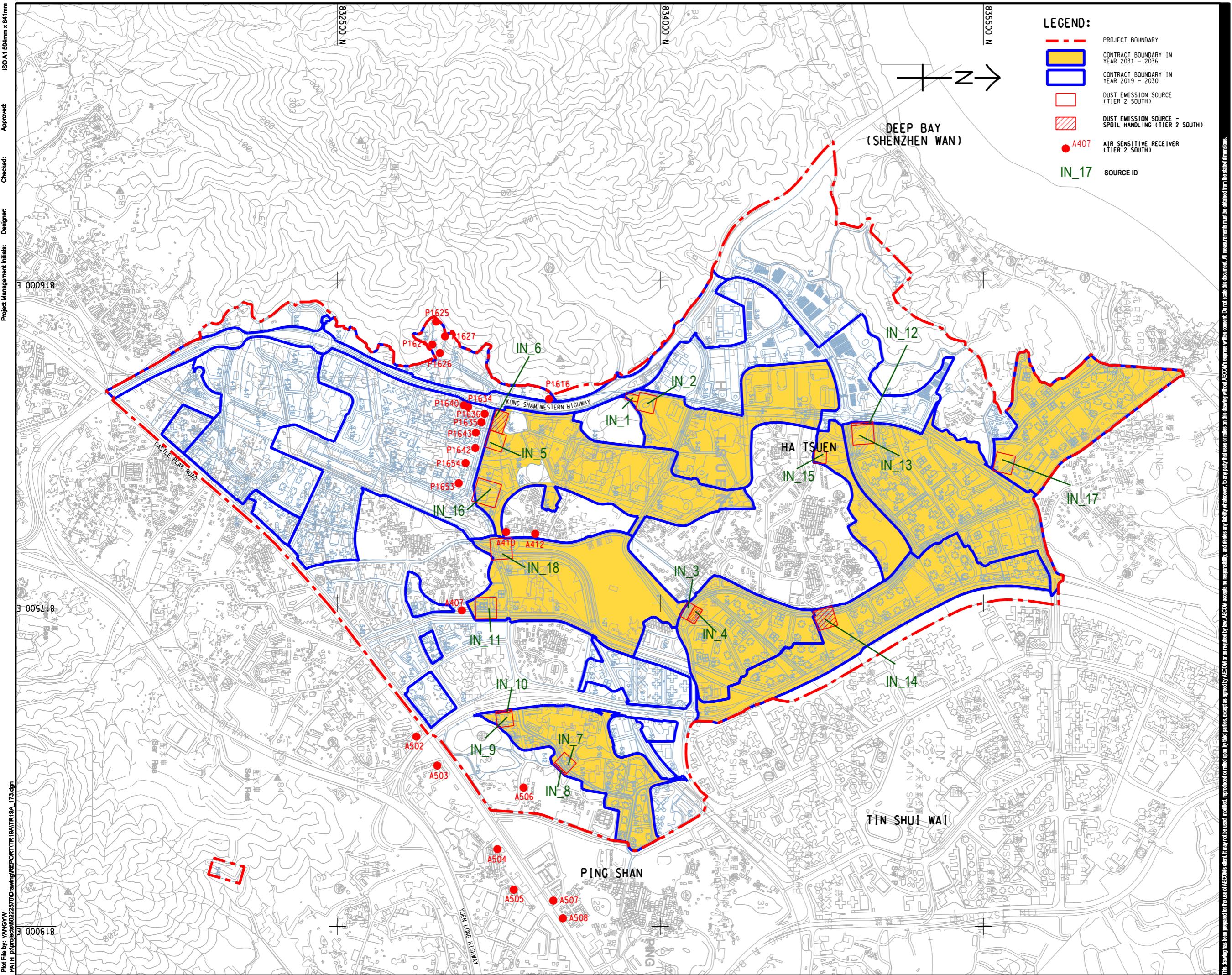
SHEET TITLE
图纸名称

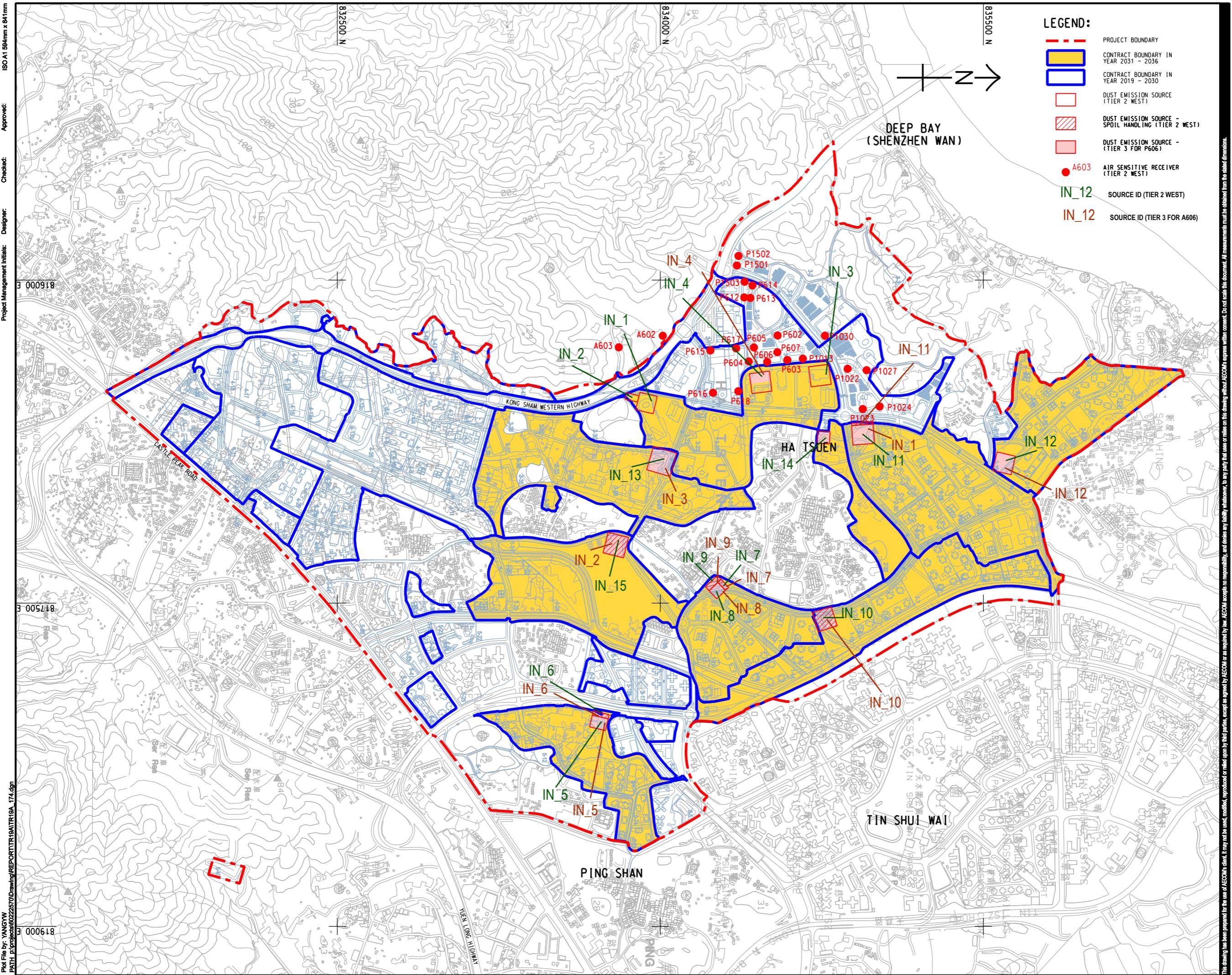
LOCATION OF CONSTRUCTION
DUST SOURCE IN YEAR 2031 - 2036
(TIER 2 EAST)

SHEET NUMBER
图纸序号

60222570/TR19A/APPENDIX 3.1.8







卷之三