JOB NO.: TCS01325/23

CONTRACT NO. EP/SP/186/21

WEST NEW TERRITORIES LANDFILL EXTENSION

TOTAL SUSPENDED PARTICULATES MONITORING PLAN

SUBMISSION FOR

EP-393/2010/A CONDITION 2.8

FEP-01/393/2010/A CONDITION 2.8

PREPARED FOR

HONG KONG RESOURCES RECOVERY PARK

Date	Reference No.	Certified By
6 May 2024	TCS01325/23/600/R0010r4	Tam Tak Wing (Environmental Team Leader)

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0	1	12 January 2024	First Submission
1	2	17 January 2024	Amended according to IEC's and Service Manager's comment
2	3	11 March 2024	Amended according to EPD's comment
3	4	19 April 2024	Amended according to EPD's comment
4	5	6 May 2024	Amended according to EPD's comment

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 The WENT Landfill Extension (WENTX) is classified as a Designated Project (DP) requiring an Environmental Permit (EP) under Schedule 2, Part I of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The Environmental Impact Assessment (EIA) Report (AEIAR-147/2009) of WENTX was approved in November 2009 and the respective EP (EP-393/2010) was granted in June 2010.

1.1.2 For the WENTX development scheme adopted in the WENTX-EIA in 2009 (hereby referred to the Original Scheme), the site covering about 188 hectares (ha) of land adjacent to the existing WENT Landfill has been confirmed feasible to provide approximately 81 million m^3 (Mm^3) of additional landfill capacity. Since then, a number of interfacing projects, commitments and neighbourhood enhancement initiatives have been proposed and considered in conjunction with the Project. The reference design and implementation programme for the WENTX (hereby referred to the Enhanced Scheme) has been revised accordingly.

1.1.3 The boundary of WENTX is reduced under the Enhanced Scheme and the waste filling area and landfill capacity are updated accordingly. Variation of EP (VEP) (application number VEP-617/2022) was applied by the project proponent and EP-393/2010/A was issued by the Environmental Protection Department (EPD) on 29 July 2022 subsequently. In October 2023, further EP no. FEP-01/393/2010/A was issued to Hong Kong Resources Recovery Park.

1.1.4 In the EIA Report, construction dust modelling results show that the 1- hour and 24- hour average Total Suspended Particulates (TSP) concentrations at all the receivers would comply with the legislative requirements. Further analysis suggests that the contribution from the WENT Landfill Extension Project would nevertheless be insignificant, especially for the neighbouring village houses.

1.1.5 During the VEP, supporting document concluded that with respect to the reduced scale and extent of the Project, the Enhanced Scheme would generally bring a positive air quality impact compared to the Original Scheme. With implementation of good site practices and suitable mitigation measures, it is anticipated that there is no adverse residual air quality impact during its construction, operation, restoration and aftercare stages of the Project. The Environmental Monitoring and Audit (EM&A) programme and requirements are generally the same as those recommended in the approved EM&A Manual under the Original Scheme and shall be followed.

1.1.6 In Conditions of Approval under Section 8(3) of the EIA Ordinance condition(c), it recommended that the project proponent should, in consultation with the Director of Environmental Protection (DEP), double the frequency of monitoring of Total Suspended Particulates (TSP) level as stipulated in the EM&A Manual which the sampling frequency of at least once in every six-days for 24-hr TSP monitoring and at least three times in every six-days for 1-hr TSP monitoring. Also, extra mitigation measures, including stoppage of works if necessary, should be implemented when exceedances of TSP levels occur so as to mitigate any upsurge of TSP levels.

1.1.7 Further to the recommendation discussed above, the requirement in the EP Condition 2.8 of EP-393/2010/A and FEP-01/393/2010/A suggested that the sampling frequency for 24-hr TSP monitoring shall be at least twice in every 6-day; while that for the 1-hr TSP

monitoring shall be at least 6 times in every 6-day.

1.2 PROJECT SCOPE

1.2.1 The landfill is to be designed and developed for the controlled disposal of waste under the Waste Disposal Ordinance (Cap. 354) in Tuen Mun of the west New Territories.

1.2.2 The scope of the project comprises of construction and operation of a landfill extension on the western side of the existing WENT Landfill of 94 hectares and a filling capacity of not more than 76 million cubic metres, including:

(i) Site formation and preparation;
(ii) Installation of landfill infrastructure including leachate treatment plan, landfill gas management plant, power generators, workshops and site offices;
(iii) Installation of landfill liner system
(iv) Installation of leachate collection and disposal facilities;
(v) Installation of gas collection and utilisation facilities;
(vi) Provision of utilities and drainage;
(vii) Landfilling operation;
(viii) Restoration and aftercare in subsequent stages; and
(ix) Implementation of measures to mitigate environmental impact as well as environmental monitoring and audit.

1.2.3 In addition, there are some works areas for the WENTX such as the transplantation site near Lung Kwu Sheung Tan, fresh water pumping station at Yung Long Road, noise bund near Ha Pak Nai, temporary site office and stockpiling areas adjacent to the proposed landfill infrastructure area. The layout of the WENT Landfill Extension Boundary is shown in ***Appendix A***. The extension part of the WENT Landfill is expected to commence operation in 2026.

1.3 PURPOSE OF SUBMISSION

1.3.1 As per condition 2.8 of EP-393/2010/A and FEP-01/393/2010/A, a monitoring plan for Total Suspended Particulates level is required to be submitted to the DEP at least 1 month before the commencement of construction of the Project. The monitoring plan shall include the monitoring frequency and mitigation measures to be taken for any possible exceedances of the TSP Action and Limit Levels, including stoppage of works if necessary. The sampling frequency for 24-hr TSP monitoring shall be at least twice in every 6-day; while that for the 1-hr TSP monitoring shall be at least 6 times in every 6-day. Before submission to the Director, the monitoring plan shall be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) as conforming the information and recommendations contained in the approved EIA report (Register No. AEIAR-147/2009).

1.3.2 This Total Suspended Particulates Monitoring Plan has been prepared by Action-United Environmental Services & Consulting (AUES) to fulfill Condition 2.8 of the EP-393/2010/A and FEP-01/393/2010/A.

2 MONITORING PLAN

2.1 GENERAL

2.1.1 In the EIA Report, construction dust modelling results show that the 1-hour and 24-hour average TSP concentrations at all the receivers would comply with the legislative requirements. Further analysis suggests that the contribution from the WENT Landfill Extension Project would nevertheless be insignificant, especially for the neighbouring village houses.

2.1.2 During the VEP, supporting document concluded that with respect to the reduced scale and extent of the Project, the Enhanced Scheme would generally bring a positive air quality impact compared to the Original Scheme. With implementation of good site practices and suitable mitigation measures, it is anticipated that there is no adverse residual air quality impact during its construction, operation, restoration and aftercare stages of the Project. The EM&A programme and requirements are generally the same as those recommended in the approved EM&A Manual under the Original Scheme and shall be followed.

2.1.3 In Conditions of Approval under Section 8(3) of the EIA Ordinance condition(c), it recommended that the project proponent should, in consultation with the Director of Environmental Protection (DEP), double the frequency of monitoring of Total Suspended Particulates (TSP) level as stipulated in the EM&A Manual which the sampling frequency of at least once in every six-days for 24-hr TSP monitoring and at least three times in every six-days for 1-hr TSP monitoring. Also, extra mitigation measures, including stoppage of works if necessary, should be implemented when exceedances of TSP levels occur so as to mitigate any upsurge of TSP levels.

2.1.4 Further to the recommendation discussed above, the requirement in the EP Condition 2.8 of EP-393/2010/A and FEP-01/393/2010/A suggested that the sampling frequency for 24-hr TSP monitoring shall be at least twice in every 6-day; while that for the 1-hr TSP monitoring shall be at least 6 times in every 6-day and the Total Suspended Particulates Monitoring Plan is required to be submitted to the DEP at least 1 month before the commencement of construction of the Project. The Plan shall include the monitoring frequency and mitigation measures to be taken for any possible exceedances of the TSP Action and Limit Levels. Before submission to the Director, the monitoring plan shall be certified by the ET Leader and verified by the IEC as conforming the information and recommendations contained in the approved EIA report (Register No. AEIAR-147/2009).

2.2 DUST SOURCE

2.2.1 During construction, fugitive dust would be generated during heavy construction activities include site clearance, ground excavation, blasting and rock breaking, construction of the associated facilities, temporary road access within the site and on-site stockpiling. Wind erosion of all open sites including stockpiling will have potential impact.

2.2.2 Throughout the construction period, good site practices and dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation will be implemented to reduce the dust emission as much as possible.

2.3 MONITORING STATIONS

2.3.1 Dust monitoring locations recommended in the EM&A Manual are the nearest air sensitive receiver (ASRs) from the Project boundary during the EIA. All of these ASRs are located outside the 800m range from original Project boundary. Furthermore, during the VEP, two new ASRs were identified within 500m from the updated boundary of the Project, and they are recommended as additional monitoring stations. The proposed monitoring stations in EM&A Manual and VEP the presented in ***Table 2-1*** and ***Table 2-2*** and illustrated in ***Appendix B.***

Table 2-1 Dust Monitoring Locations recommended in the EM&A Manual

Station ID	ASR ID	Shortest Horizontal Distance between ASR to boundary of original WENT Landfill Extension, m
AM(D)1	A1-1	1190
AM(D)2	A1-2	1240
AM(D)3	A1-3	1065
AM(D)4	A2-1	855
AM(D)5	A4-1	900

Table 2-2 Additional Dust Monitoring Locations identified during VEP

Station ID	ASR ID	Approx. Distance from Updated Project Boundary(m) [1]
AM(D)6	A3-1	60
AM(D)7	A5-2	350

Note:
[1] Shortest horizontal distances are measured according to the updated Project boundary of WENTX under the Enhanced Scheme.

2.3.2 Joint site visits by Contractor and ET have been conducted at the recommended locations to verify their status and obtain agreement to install dust monitoring equipment for the EM&A Programme. Their locations and status are summarized in ***Table 2-3.***

Table 2-3 Status of Dust Monitoring Locations

Station ID	ASR ID	Status and Propose Alternative Locations
AM(D)1	A1-1	Available
AM(D)2	A1-2	Available
AM(D)3	A1-3	Available
AM(D)4	A2-1	Rejected and no alternative proposed after further inspection
AM(D)5	A4-1	Relocated to a location which closer to the WENTX site, which demonstrate a more representative data on dust impact associated from WENTX - AM(D)5a
AM(D)6	A3-1	Rejected and alternative proposed on rooftop of T · Park workshop - AM(D)6a
AM(D)7	A5-2	Rejected and alternative proposed at site boundary of Middle Tsang Tsui Ash Lagoon - AM(D)7a

When alternative monitoring locations are proposed, the following criteria, as far as practicable, should be followed:

- At the site boundary or such locations close to the major dust emission source;
- Close to the sensitive receptors; and
- Account for the prevailing meteorological conditions

Proposed Alternative Locations

AM(D)4

2.3.3 A formal email has been sent to Black Point Power Station on 27th December 2023 for access authorization to the premise in order to carry out dust monitoring. The corresponding team replied that due to the safety and security reason, they rejected to provide access for dust monitoring activities in their premise.

2.3.4 After AM(D)4 (Black Point Power Station Office and Control Room) rejected the proposal of installing dust monitoring equipment within their premises, alternative locations were sought which included locations near the Lung Kwu Sheung Tan Village Supply Tank and Lung Kwu Sheung Tan Service Reservoir. Visits to the above 2 locations were made after the rejection received on 18 January 2024 for 4 weeks and it was concluded that there was no site personnel permanently stationed at these 2 locations and these premises are probably visited by personnel on an ad-hoc basis. Furthermore, it was observed that building/office have been equipped with air-conditioning with dust filter, with the implementation of the dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation, adverse air quality impact is not anticipated at these 2 locations. Thus, it was concluded that no further alternation location can be considered.

AM(D)5

2.3.5 During baseline monitoring conducted at AM(D)5 on 27 Jan to 9 Feb 2024, it has been observed that 9 out of 14 monitoring days recorded 24-hour TSP levels exceeding the Limit Level (260μg/m3). Investigation was conducted to identify cause of high baseline 24-hour TSP result, and it is considered that the frequent passage of heavy vehicles, particularly on the unpaved access road to the nearby warehouses, was the main contributing factor to the elevated 24-hour TSP levels. As the baseline level for 24-hour TSP at AM(D)5 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at a new location closer to the WENTX site, which demonstrate a more representative data on dust impact associated from WENTX (hereinafter named AM(D)5a) for the parameters of 1-hour and 24-hour TSPs from 16 to 31 March 2024.

AM(D)6

2.3.6 Site visit and meeting with T · Park was held on 15th January 2024 and it is concluded and agreed that air quality monitoring equipment should be relocated to the rooftop of T · Park workshop instead of the T · Park office, which is the best available alternative monitoring location in the facility. The distance between T · Park office and workshop is approximately 100m. They are both located to the north of the site boundary and experiencing the same prevailing meteorological conditions.

AM(D)7

2.3.7 A site visit was conducted at Tsang Tsui Columbarium - Garden of Remembrance on 28th December 2023, and after discussion with the management representative of Tsang Tsui Columbarium, access authorization to carry out dust monitoring was rejected due to unsuitable conditions.

2.3.8 An alternative location has been sought based on the recommended criteria. It is proposed to relocate the monitoring location (north facing) to the site boundary of Middle Tsang Tsui Ash Lagoon and at location avoid the emission of the Columbarium (east facing). The proposed monitoring location is approximately 10 meters away from Tsang Tsui Columbarium - Garden of Remembrance. Both locations are situated to the north-west of the site boundary and experiencing the same prevailing meteorological conditions.

2.3.9 Since the access for AM(D)6 and AM(D)7 were rejected by the ownership of the ASR, "Proposal for Alternative Dust Monitoring Locations" was prepared by ET to propose alternative monitoring stations for inaccessible monitoring locations with full justification, and it had submitted to Service Manager (SM) and IEC for agreement before the monitoring work. The dust monitoring locations are shown in ***Table 2-4*** and illustrated in ***Appendix B***.

Table 2-4 Dust Monitoring Locations

Station ID	ASR ID
AM(D)1	A1-1
AM(D)2	A1-2
AM(D)3	A1-3
AM(D)5a	A4-1
AM(D)6a	A3-1
AM(D)7a	A5-2

2.3.10 The status and locations of dust sensitive receivers may change after issue of this TSP Monitoring Plan. If such case exists, the ET shall propose updated monitoring locations and seek approval from Service Manager and IEC and agreement from EPD on the proposal.

2.4 MONITORING PARAMETER

2.4.1 According to the EM&A Manual, 1-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality.

2.5 MONITORING EQUIPMENT AND METHODOLOGY

2.5.1 High volume sampler (HVS) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

- 0.6-1.7 m^3/min (20-60 SCFM) adjustable flow range;
- equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm^2 (63 in^2);
- flow control accuracy: +/- 2.5% deviation over 24-hr sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easy to change the filter; and
- capable of operating continuously for 24-hr period.

2.5.2 The ET is responsible for provision of the monitoring equipment. He shall ensure that sufficient number of HVSs with an appropriate calibration kit are available for carrying out the baseline monitoring, regular impact monitoring and ad hoc monitoring. The HVSs shall be equipped with an electronic mass flow controller and be calibrated against a traceable standard at regular intervals. All the equipment, calibration kit, filter papers, etc. shall be clearly labeled.

2.5.3 Upon approval by the IEC, 1-hour TSP levels can be measured by direct reading methods

which are capable of producing comparable results as that by the high volume sampling method, to indicate short event impacts.

2.5.4 The 1-hour TSP monitor proposed for 1-hour TSP measurement is a brand named "Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provided a real time 1-hour TSP measurement based on 90^{o} light scattering. The 1-hour TSP monitor consisted of the following:

(a) A pump to draw sample aerosol through the optic chamber where TSP was measured;

(b) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and

(c) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

2.5.5 The 1-hour TSP monitor will be operated in accordance with the manufacturer's Operation and Service Manual. It will be calibrated annually, and the calibration certificate will be issued by either a HOKLAS-accredited laboratory or manufacturer. In addition, the 1-hour TSP monitor periodically checked by comparing with the measurements obtained using a calibrated High Volume Sampler to ensure the validity and accuracy of the data measured by 1-hour TSP monitor.

2.6 MONITORING PERIOD AND FREQUENCY

Baseline Monitoring

2.6.1 Baseline monitoring will be conducted at all monitoring locations for at least 14 consecutive days prior to the commencement of the construction works to obtain daily 24-hour TSP samples. One-hour TSP monitoring shall be done at least 3 times per day while the highest dust impact is expected. During the baseline monitoring, there should not be any construction or dust generation activities in the vicinity of the monitoring stations.

2.6.2 In exceptional case, when insufficient baseline monitoring data or questionable results are obtained, the ET Leader shall liaise with EPD to agree on an appropriate set of data to be used as a baseline reference and submit to Service Manager and IEC for approval.

2.6.3 Ambient conditions may vary seasonally and shall be reviewed at every three months. If the ET Leader considers that the ambient conditions have been changed and a repeat of the baseline monitoring is required to be carried out for obtaining the updated baseline levels, the monitoring should be at times when the Contractor's activities are not generating dust, at least in the proximity of the monitoring stations. Should change in ambient conditions be determined, the baseline levels and, in turn, the air quality criteria, should be revised. The revised baseline levels and air quality criteria should be agreed with EPD.

Impact Monitoring

2.6.4 Impact monitoring shall be carried out during the course of works and the frequency of impact monitoring as per Conditions of Approval under Section 8(3) of the Ordinance condition(c), it recommended that the project proponent should, in consultation with the Director of Environmental Protection (DEP), double the frequency of monitoring of Total Suspended Particulates (TSP) level as stipulated in the EM&A Manual which the sampling frequency of at least once in every six-days for 24-hr TSP monitoring and at least three times in every six-days for 1-hr TSP monitoring. Further to the recommendation discussed above, the requirement in the EP Condition 2.8 of EP-393/2010/A and FEP-01/393/2010/A

suggested that the sampling frequency for 24-hr TSP monitoring shall be at least twice in every 6-day; while that for the 1-hr TSP monitoring shall be at least 6 times in every 6-day. The frequency of TSP monitoring as summarized in ***Table 2-5***.

Table 2-5 TSP Monitoring Plan

Monitoring Station ID	Monitoring Parameter	Frequency	
		1-hr TSP	24-hr TSP
AM(D)1 AM(D)2 AM(D)3 AM(D)5a AM(D)6a AM(D)7a	1-hour TSP and 24-hour TSP	at least 6 times in every 6-day	at least twice in every 6-day

2.6.5 In case of non-compliance with the dust criteria, more frequent monitoring exercise, as specified in the Action Plan in Section 2.8, shall be conducted within 24 hours after the result is obtained. This additional monitoring shall be continued until the excessive dust emission or the deterioration in air quality is rectified.

2.7 ACTION AND LIMIT LEVELS

2.7.1 The baseline monitoring results form the basis for determining the air quality criteria for the impact monitoring. The ET shall compare the impact monitoring results with air quality criteria set up for 1-hour and 24-hour TSP. ***Table 2-6*** shows the air quality criteria, namely Action and Limit Levels.

Table 2-6 Action and Limit Levels for Dust Impact

Parameters	Monitoring Station	Action	Limit
24-hour TSP Level in µg/m³	AM(D)1 AM(D)2 AM(D)3 AM(D)5a AM(D)6a AM(D)7a	• For baseline level ≤ 200 µg/m³, Action level = (130% of baseline level + Limit level)/2 • For baseline level > 200 µg/m³, Action level = Limit level	260
1-hour TSP Level in µg/m³		• For baseline level ≤ 384 µg/m³, Action level = (baseline level * 1.3 + Limit level)/2; • For baseline level > 384 µg/m³, Action level = Limit level	500

2.8 EVENT AND ACTION PLAN

2.8.1 The baseline monitoring results form the basis for determining the air quality criteria for the impact monitoring. The ET Leader shall compare the impact monitoring results with air quality criteria set up for 1-hour and 24-hour TSP. ***Table 2-4*** shows the dust criteria, namely Action and Limit levels to be used. Should non-compliance of the air quality criteria occur, the ET, the IEC, SM and the Contractor shall undertake the relevant action in accordance with the Action Plan in ***Table 2-7***.

Table 2-7 Event and Action Plan for Dust Impact

Event	Action			
	ET	IEC	SM	Contractor
Action level exceedance for one sample	1. Identify source 2. Inform IEC, SM and Contractor 3. Repeat measurements to confirm findings.	1. Check monitoring data and Contractor's working methods	1. Notify Contractor for the identification of cause	1. Rectify any unacceptable practice 2. Amend working methods if

Event	Action			
	ET	**IEC**	**SM**	**Contractor**
	4. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily 5. If exceedance stops, cease additional monitoring			appropriate
Action level exceedance for two or more consecutive samples	1. Identify source 2. Notify IEC, SM and Contractor 3. Repeat measurements to confirm findings. 4. Investigate the cause of exceedance and check Contractor's working procedures 5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily 6. Discuss with IEC and SM on remedial actions required 7. If exceedance continues, arrange meeting with IEC and Contractor 8. If exceedance stops, cease additional monitoring	1. Review monitoring data submitted by ET 2. Review the investigation finding submitted by ET and check the Contractor's working method 3. Review the proposed remedial measures by Contractor and advise SM accordingly 4. Supervise Implementation of remedial measures	1. Confirm receipt of notification of exceedance in writing 2. Require Contractor to propose remedial measures for the analysed dust problem 3. Ensure remedial measures properly implemented	1. Rectify any unacceptable practice 2. Amend working methods if appropriate 3. Submit proposals for remedial actions to IEC within 3 working days of notification 4. Implement the agreed proposals 5. Amend proposal if appropriate.
Limit level exceedance for one sample	1. Identify source 2. Inform IEC, SM and the Contractor 3. Repeat measurements to confirm findings 4. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SM informed of the results 6. If exceedance stops, cease additional monitoring	1. Review monitoring data submitted by ET 2. Discuss amongst SM, ET Leader and Contractor on the potential remedial actions. 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of exceedance in writing 2. Require Contractor to propose remedial measures for the analysed dust problem 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate
Limit level exceedance for two or	1. Identify source 2. Repeat measurements to confirm findings	1. Review monitoring data submitted by ET	1. Confirm receipt of notification	1. Take immediate action to avoid further

Event	Action			
	ET	**IEC**	**SM**	**Contractor**
more consecutive samples	3. Inform IEC, SM, Contractor and EPD 4. Investigate the cause of exceedance and carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily 6. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SM informed of the results 7. If exceedance continues, arrange meeting with IEC and Contractor 8. If exceedance stops, cease additional monitoring.	2. Discuss amongst SM, ET Leader and Contractor on the potential remedial actions 3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise SM accordingly 4. Supervise the implementation of remedial measures	of exceedance in writing 2. Require Contractor to propose remedial measures for the analysed dust problem 3. Ensure remedial measures properly implemented 4. If exceedance continues, consider what activity of the work is responsible and instruct Contractor to stop that activity of work until the exceedance is abated	exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the SM until the exceedance is abated

Notes:
ET – Environmental Team
IEC – Independent Environmental Checker
SM – Service Manager (the Service Manager will perform the same role / same as the Independent Consultant as recommended in the EIA EM&A Manual.)

2.9 DUST MITIGATION MEASURES

2.9.1 The EIA report and VEP supporting document have recommended dust control and mitigation measures. The Contractor shall be responsible for the design and implementation of these measures:

- Regular watering on construction / restoration workfronts, haul roads, stockpiling areas etc (at least once per hour);
- Provision of vehicle washing facilities at every designated exit point of the site, covering the onsite storage of excavated materials by impervious sheeting where practicable,
- Paving the haul roads with concrete, bituminous materials or hardcores.
- The quantity of explosive used at each time and spacing of shot holes shall be carefully designed. Blast nets, screens and other protective covers shall be adopted to prevent any fly rocks resulting from blasting activities.
- The areas within 30 m from the blasting area will be wetted with water prior to blasting,

- Blasting shall not be carried out when the strong wind signal or tropical cyclone warning signal No. 3 or higher is hoisted. Water spraying shall be conducted immediately after each blasting to avoid dispersion of dust.
- All crushers, including the inlets and outlets, will be enclosed and dust extraction and collection system to minimise the dust emission. Moreover, prepare the crushing plants design and apply for the necessary Specified Process licence prior to conducting any crushing operation.
- Tarpaulin, hydroseeding or other means of control measures shall as far as practicable be applied on the stockpiling areas to avoid wind-blown dust emissions.
- On-shore power supply shall be provided for the construction barges and marine vessels to power the cranes and other machinery on the barges / vessels at the berths to avoid emission idling at the berth if necessary.

2.9.2 If the above measures are not sufficient to restore the air quality to acceptable levels upon the advice of ET Leader, the Contractor shall liaise with the ET Leader on some other mitigation measures, propose to Service Manager and IEC for approval, and implement the mitigation measures.

3 REPORTING

3.1 BASELINE MONITORING REPORT

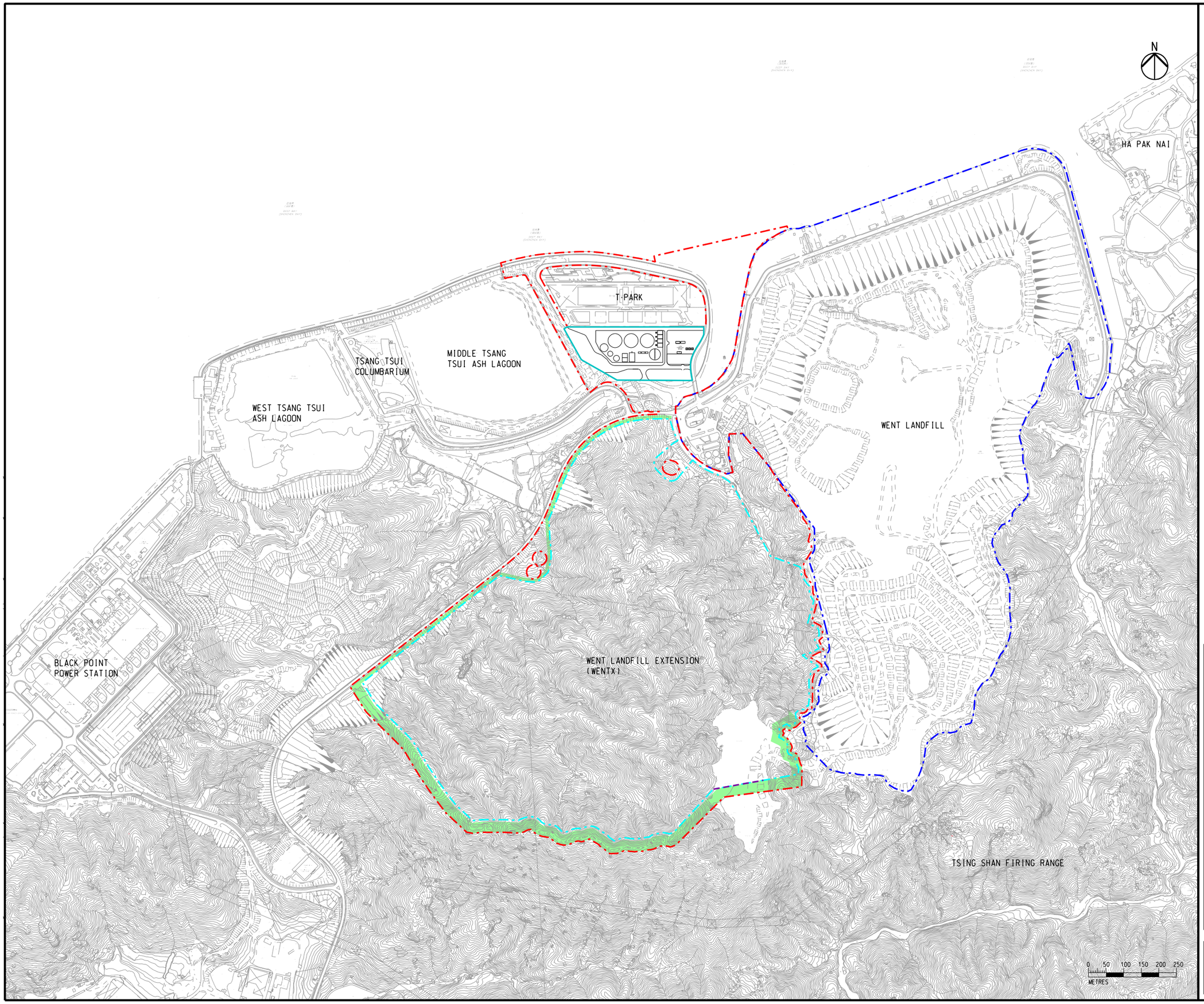
3.1.1 The baseline TSP monitoring result will be presented in the Baseline Monitoring Report.

3.2 IMPACT MONITORING REPORT

3.2.1 The impact TSP monitoring result will be compared with the Action/ Limit Level. Monthly result will be presented in the Monthly EM&A Report.

Appendix A

The Layout Plan for Project



LEGEND

- WENT LANDFILL EXTENSION (WENTX) BOUNDARY
- WENTX WASTE BOUNDARY
- LANDFILL INFRASTRUCTURE FOR WENTX
- WENT LANDFILL BOUNDARY
- TREE PLANTING BUFFER

Consultant

Project title

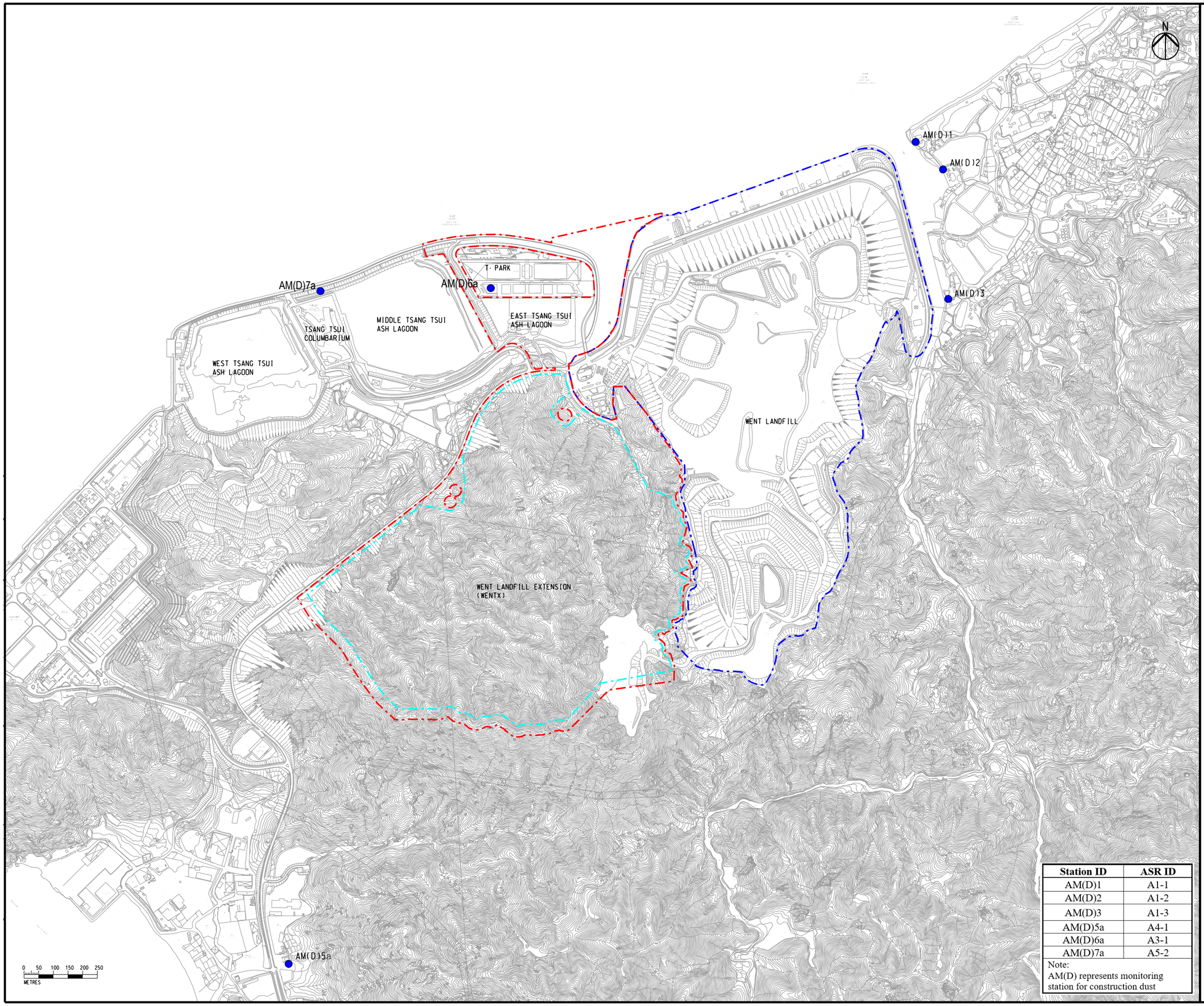
Contract No. EP/SP/186/21
West New Territories Landfill Extension

Drawing title

GENERAL PLAN
OF ENHANCED SCHEME

Appendix B

TSP Monitoring Station



LEGEND

- WENT LANDFILL EXTENSION (WENTX) BOUNDARY
- WENTX WASTE BOUNDARY
- WENT LANDFILL BOUNDARY
- AIR QUALITY MONITORING LOCATIONS

Station ID	ASR ID
AM(D)1	A1-1
AM(D)2	A1-2
AM(D)3	A1-3
AM(D)5a	A4-1
AM(D)6a	A3-1
AM(D)7a	A5-2

Note:
AM(D) represents monitoring station for construction dust

Consultant

Project title

Contract No. EP/SP/186/21
West New Territories Landfill Extension

Drawing title

LOCATIONS OF PROPOSED AIR QUALITY MONITORING STATIONS