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16. ENVIRONEMTNAL MONITORING AND AUDIT REQUIREMENTS

16.1 Introduction

16.1.1.1 This section elaborates the requirements of environmental monitoring and audit (EM&A) for the construction and operational phases of the Project, based on the assessment results of the various environmental issues.

16.1.1.2 The purpose of the EM&A programme is to ascertain and verify the assumptions implicit to, and accuracy of, EIA study predictions. The EM&A programme includes the scope of the EM&A requirements for the Project to ensure compliance with the EIA study recommendations, to assess the effectiveness of the recommended mitigation measures and to identify any further need for additional mitigation measures or remedial action.

16.1.1.3 The following sections summarise the recommended EM&A requirements for this Project. Details of the requirements are provided in a stand-alone EM&A Manual. Separate EIA studies would be conducted for the planned EF, RTS and CWHF and the relevant EM&A requirements would be addressed in its individual EIA study.

16.2 Air Quality

16.2.1.1 Dust monitoring and regular site audit should be conducted during construction phase so as to check compliance with the legislative requirements. Details of the monitoring and audit programme are contained in a stand-alone EM&A Manual.

16.2.1.2 Commissioning test should be conducted for the CHP units and the boiler to ensure proper operation of the facilities in the proposed EPP. As H_2S is the major odour source associated with the EPP, it is recommended to conduct the odour monitoring in terms of hydrogen sulphide (H_2S) at the deodorizing unit upon commissioning and quarterly in the first three years upon operation to determine whether it can meet the odour removal performance requirement. Upon the third-year monitoring, the odour monitoring should be reviewed and agreed with EPD if the monitoring is required to be continued.

16.2.1.3 In addition, odour patrol is proposed to monitor the potential odour impact from the proposed EPP during the period of regular and ad hoc maintenance or cleaning of the deodorizing unit. An Odour Complaint Registration System is also introduced in the EM&A programme to record information regarding the odour complaint and hence facilitates efficient investigation works.

16.2.1.4 Dust monitoring and site audit are proposed to be conducted during operation of CBP, CWHF and PFTF at TKO 132. The details of the EM&A programme for operation of these three facilities will be reviewed under separate studies (i.e. an EIA study under EIAO for CWHF, a Specified Process Licence Application under APCO for CBP and a Preliminary Environmental Review (PER) under planning and funding mechanism for PFTF) to be conducted by their respective project proponents. Should any crusher be involved used in the process, dust mitigation measures and monitoring requirements should refer to *A Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plants) (BPM 11/1 (95))*. The operation of CBP should follow the requirements stipulated in *A Guidance Note on the Technical, Management and Monitoring Requirements for Specified Process – Cement Works (Concrete Batching Plant) (BPM 3/2 (16))*.

16.3 Noise

16.3.1.1 Noise monitoring is recommended as part of the environmental monitoring and audit (EM&A) programme for the construction phase of the Project to check compliance with the daytime construction noise criteria. Weekly site audit is also recommended to ensure the

proper implementation of the recommended mitigation measures for daytime construction activities as part of the EM&A programme, with reference to the latest implementation schedule in the Construction Noise Management Plan (CNMP) to be submitted and agreed with Director of Environmental Protection (DEP).

16.3.1.2 With proper implementation of noise control measures, with reference to **Section 4**, no adverse fixed noise impact would be anticipated from the proposed EFs, CWHF, PFTF, RTS, CBP, Sewage Pumping Station, Fire Station cum Ambulance Depot, Government Office/Complex, Green Filling Station, Effluent Polishing Plant, and Public Transport Interchange/ Public Transport Facilities under the Project and the existing fixed plants at the Tseung Kwan O InnoPark, Infrastructure Area of SENT Landfill and its Extension (SENTX), the Synthetic Natural Gas Plant and the Desalination Plant in the vicinity of the Project, as well as the planned fixed plant from concurrent projects, including Cavern Development in Area around Tseung Kwan O, and ventilation buildings potentially at proposed railway reserve for TKLSE. The specification, mitigation measures, shall make reference to the latest implementation schedule as stated in the Fixed Noise Source Management Plan (FNMP) and corresponding quantitative fixed noise assessment to be submitted and agreed with DEP. Nevertheless, as part of the design process, monitoring of operational noise from the proposed fixed plants during the testing and commissioning stage and monitoring and audit requirements would be required in the recommendations in the Fixed Noise Source Management Plan (FNMP) to verify the compliance of the EIAO-TM criteria.

16.3.1.3 No adverse rail noise impact would be anticipated, subject to a separate EIA study for the planned TKLSE. Environmental Monitoring and Audit requirements, if deemed necessary, would be proposed under the separate EIA.

16.3.1.4 There would be no adverse road traffic noise impact anticipated from the Project with implementation of the proposed mitigation measures in place. Low noise road surfacing is recommended on some proposed local roads, while acoustic windows are recommended at some of the proposed residential developments. Noise insulation with suitable window type and air-conditioning are recommended at proposed educational developments. Although no adverse traffic noise impact during operational phase is anticipated from the Project with provision of recommended mitigation measures in place, road traffic noise levels should be monitored at representative NSRs, which are in the vicinity of the recommended direct mitigation measures, during the first year after road opening or full population intake of protected NSRs, whichever is the latest.

16.3.1.5 There would be no adverse cumulative marine traffic noise impact due to the operation of the Project. No environmental monitoring and audit requirements would be necessary.

16.4 Water Quality

16.4.1.1 Marine water quality monitoring at selected WSRs and control stations is recommended for the baseline stage, the marine construction stage and post-construction stage of the Project. Site audit would be conducted throughout the marine and land-based construction under this Project to ensure that the recommended mitigation measures are properly implemented. Discharge license(s) should be obtained under the WPCO for any construction site discharges. Monitoring of the construction site effluent shall be carried out in accordance with requirements stipulated in the WPCO discharge licenses.

16.4.1.2 Marine water quality monitoring at selected WSRs and control stations should be carried out during the first year operation of the EPP. Marine water quality monitoring should also be conducted in case of emergency discharge from the EPP.

16.4.1.3 Marine water quality monitoring at selected WSRs and control stations should also be

carried out during the first year operation of the non-designated projects at TKO 132 (i.e. PFTF and CBP) and in case accidental spillage from these facilities. Water quality monitoring requirements for operation of the proposed designated projects at TKO 132 (i.e. CWHF, EFs and RTS) will be reviewed under separate EIA studies to be conducted by their respective project proponents. For future maintenance dredging works, the future party responsible for carrying out the works should implement the recommended mitigation measures and propose details of the associated water quality monitoring programme prior to the commencement of the maintenance dredging works.

16.5 Sewerage and Sewage Treatment Implications

Construction Phase

16.5.1.1 The sewage generated during the construction stage from the on-site workforce will be collected in chemical toilets and disposed of off-site. Therefore, no sewerage impacts are expected from the site during the construction phase. As such, environmental monitoring and audit of the sewerage system is considered not required.

Operation Phase

16.5.1.2 No adverse impacts to the existing and planned sewerage systems associated with the operation of the Project are expected, and thus no specific EM&A requirement would be required.

16.6 Waste Management Implications

16.6.1.1 Waste management would be the Contractor's responsibility to ensure that all wastes produced during the construction of the Project are handled, stored and disposed of in accordance with good waste management practices and relevant regulations and legislative requirements. The recommended mitigation measures should form the basis of the site Waste Management Plan (WMP) to be developed by the Contractors as part of the Environmental Management Plan in accordance with *ETWB TC(W) No. 19/2005 Environmental Management on Construction Sites* and submitted to the Engineer for approval at the construction stage. A trip ticket system in accordance with *DEVB TCW No. 6/2010* should be in place. The monitoring and auditing requirement stated in *ETWB TCW No.19/2005* and *DEVB TCW No. 6/2010* should be followed with regard to the management of C&D materials.

16.6.1.2 Monthly site audit should be conducted by the Environmental Team (ET) during construction phase if wastes are being managed in accordance with approved procedures. The audits should look at all aspects of on-site waste management practices including waste generation, storage, recycling, transport and disposal. Apart from site inspections, documents including licenses, permits, disposal and recycling records should be reviewed and audited for compliance with the legislation of the recommended good site practice and other waste management mitigation measures.

16.7 Land Contamination

16.7.1.1 Remediation works, if necessary, would be carried out based on the recommended further works outlined in **Section 8.8.1**. Mitigation measures as recommended in the future EPD approved RAP should be implemented during the remediation works. The EM&A requirements should be carried out in the form of regular site inspection to ensure the recommended mitigation measures are properly implemented.

16.8 Ecology (Terrestrial and Marine)

16.8.1.1 Key mitigation measures on specific ecological resources were recommended under Section 9 of this EIA Report, which included mitigation measures on protection of floral species of conservation importance, transplantation of affected coral colonies and minimisation of disturbance impact. These measures should be monitored and audited by local ecologist(s) with at least 5 years of relevant experience throughout the construction phase and during the operation phase to ensure proper implementation and, where appropriate, to monitor the performance of the proposed mitigation measures (e.g. monitoring of the translocated floral species of conservation importance and coral colonies may extend into operation phase). Furthermore, monthly site audit should be carried out throughout the construction phase to ensure recommended avoidance and minimisation measures are properly implemented. In case of non-compliance, contractor should be informed to strengthen the proposed measures accordingly. Details of EM&A requirements are discussed in the standalone EM&A Manual.

Protection of Floral Species of Conservation Importance

16.8.1.2 Floral species of conservation importance recorded within the Project footprint (e.g. *Diospyros vaccinioides*) should be protected as far as possible. As a mitigation measure, all the unavoidably affected individuals should be preserved on site, transplanted or compensated to suitable habitat(s) nearby prior to the commencement of works. A detailed vegetation survey should be conducted by a qualified ecologist / botanist with at least 5 years relevant experience to identify and record the affected individuals before the commencement of works. Details of monitoring programme and remedial measures recommended in the transplantation proposal should be reviewed and updated by a qualified ecologist / botanist with at least 5 years relevant experience to formulate a final transplantation proposal. Agreement / approval of the final transplantation proposal should be obtained from relevant government authorities (e.g. AFCD and EPD) prior to commencement of any construction activities.

Protection of Faunal Species of Conservation Importance

16.8.1.3 Although no direct impact on faunal species of conservation importance is anticipated, preconstruction survey should be conducted for TKO 132 and TKO 137 by qualified ecologist with at least 5 years relevant experience to identify if any faunal species of conservation importance within and in the surrounding of the Project footprint, in particular any nest / breeding pairs of Black Kite is presented in the surrounding of the TKO 132 footprint. Afterwards, Pre-construction Fauna Survey Report prepared by a qualified ecologist with at least 5 years relevant experience shall be submitted to relevant government authorities (e.g. AFCD and EPD).

Translocation of Affected Coral Colonies

16.8.1.4 To avoid and minimize potential loss of coral colonies found within the permanently affected area in TKO 132, translocation of the affected colonies of high ecological value is recommended as a mitigation measures. In addition, coral translocation is also recommended as a precautionary measure for coral colonies that would be affected by the reclamation of TKO 137. A pre-construction detailed coral survey shall be conducted in the marine works area prior to the commencement of marine works by a qualified coral ecologist(s) with SCUBA diving qualification and at least 5 years relevant experience, the curriculum vitae of whom shall be submitted to AFCD along with the scope and methodology of the detailed coral survey for review and agreement prior to commencement of the survey. The survey should investigate the number and location of coral colonies to be directly affected by the construction of the marine viaduct pier, the reclamation and associated sediment removal works. Identified coral colonies should be sized, mapped and tagged. An assessment of the suitability of translocation for each identified coral colony

should be presented in the coral translocation plan, along with the proposed recipient site, translocation methodology and programme, monitoring methodology and programme for the translocation coral colonies. The potential translocation recipient site should possess a coral colony composition similar to that of the existing site and should be located well outside areas where direct and indirect impacts from the marine works of the Project, as well as of other planned/committed projects nearby, are expected. Post-translocation monitoring survey shall be conducted. Information gathered during post-translocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey to assess the effectiveness of the translocation works.

Monitoring of Mitigation Measures for Disturbance Impact

16.8.1.5 EM&A programmes were recommended to ensure compliance in regard of the potential air quality and noise impacts (e.g. potential dust emission during construction phase, and potential noise exceedance from construction noise). Monitoring requirements for construction dust emission and construction noise monitoring are further stated at **Section 16.2** and **Section 16.3** respectively. Regular site environmental audit during construction phase is also recommended to ensure proper implementation of mitigation measures and good site practices. Details of the EM&A programme are provided in a stand-alone EM&A Manual.

16.8.2 Water quality monitoring and regular site inspections would be undertaken during the construction to ensure that the recommended mitigation measures for water quality shall be properly implemented. Details on monitoring requirement for water quality is further stated in the **Section 16.4** and the stand-alone EM&A Manual.

16.9 Fisheries

16.9.1.1 With the implementation of mitigation and precautionary measures proposed in **Section 16.4**, potential water quality impacts arising from the Project would be minimised. No specific EM&A programme is required for the potential fisheries impact. The monitoring and audit requirement for potential water quality impact have been covered by the EM&A programme recommended in **Section 16.4**.

16.10 Landscape and Visual

16.10.1.1 The EIA has recommended landscape and visual mitigation measures to be undertaken during construction and operational phases of the Project. The design, implementation and maintenance of landscape and visual mitigation measures should be checked ensure that they are fully realized and that potential conflicts between the proposed landscape measures and any other project works and operation requirements are resolved at the earliest possible date and without compromise to the intention of the mitigation.

16.10.1.2 The construction phase EM&A of the mitigation measures shall be carried out as part of the site audit programme. EM&A during operational phase of the Project shall be carried out within the 12-month establishment period of the landscape and visual mitigation measures by the corresponding implementation agency to ensure the proposed mitigation measures in the EIA and as depicted in the Landscape and Visual Mitigation Plan are fully implemented.

16.10.1.3 All mitigation measures proposed in the EIA and implemented by the Contractor should be audited by Registered Landscape Architect (RLA), as a member of the Environmental Team, on a regular basis to ensure compliance with the intended aims of the measures. The mitigation measures proposed should be embodied into the detailed engineering

design and landscape design drawings and contract document. Site inspection should be undertaken monthly throughout the construction period. In particular, the extent of the agreed works areas should be regularly checked during the construction phase. The landscape auditor should audit the proposed mitigation measures in the EIA to ensure that they are fully implemented during construction and the 12-month establishment period during operational phase.

16.11 Cultural Heritage

Built Heritage

16.11.1.1 As no adverse impact is anticipated to all the built heritage and other identified items in concern during the construction and operational phases, no EM&A is required.

Archaeology

16.11.1.2 Since there is no declared monument and SAI within the Project boundary of TKO 137 and TKO 132, no direct impact on them is anticipated during the construction phase. To ensure that no archaeological resources related to the Customs Station on Fat Tau Chau would be affected by the Project, an Archaeological Impact Assessment should be undertaken during the detailed design phase when the details of the proposed works on Fat Tau Chau are available. This archaeological impact assessment at the detailed design phase shall assess the archaeological potential concerning the existence of remains or features in relation to the Customs Stations or other facilities within the Project boundary of TKO 137 on Fat Tau Chau, particularly in areas that would be affected by the proposed works. Based on the details and extent of proposed works to be carried out on Fat Tau Chau, the Archaeological Impact Assessment at the detailed design phase would propose appropriate measures, if any impact on archaeological heritage is identified, for consideration and agreement by AMO. The Archaeological Impact Assessment at the detailed design phase shall be conducted by an archaeologist. It shall incorporate desktop information, site inspection result and recommendation of appropriate mitigation measures, namely change of work design, preservation of archaeological heritage *in-situ*, preservation by relocation, archaeological survey cum excavation or rescue excavation, archaeological watching brief or preservation by record subject to the level of potential impacts to be confirmed in the Archaeological Impact Assessment at detailed design phase upon availability of the details and extent of the proposed works to be carried out on Fat Tau Chau, as necessary for consideration and agreement by AMO. This Archaeological Impact Assessment at the detailed design phase should be conducted by the project proponent. In the light of the above considerations, no adverse impact would be anticipated with mitigation measures agreed by AMO and implemented to the satisfaction of AMO to ensure preservation of the archaeological heritage within the Project boundary of TKO 137 on Fat Tau Chau.

16.11.1.3 Furthermore, if antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered during the construction works within the Project boundary of TKO 137 and TKO 132, the project proponent is required to inform AMO immediately for discussion of appropriate mitigation measures to be agreed by AMO before implementation by the project proponent to the satisfaction of AMO.

16.11.1.4 As the Fat Tau Chau House Ruin SAI (SAI185) is located in close proximity to the Project boundary, indirect impact is anticipated if construction works are carried out nearby. Mitigation measures are recommended for this heritage site as detailed in **Section 12.6.5**, including a condition and structural survey before and after the construction phase, a baseline vibration review based on the pre-construction condition and structural survey results and construction details, monitoring of ground-borne vibration, tilting and ground settlement (if required), dust suppression measures and a buffer zone to physical separate the heritage site from the works. EM&A programme is proposed to be established to ensure

the implementation of these mitigation measures. Details are presented in the standalone EM&A Manual.

16.11.1.5 As no adverse impacts on terrestrial archaeology during the operational phase is anticipated, no EM&A is required.

Marine Archaeology

16.11.1.6 As no impact on marine archaeology would be anticipated from the Project during both the construction and operational phases, no mitigation measures have been recommended. Nevertheless, as a precautionary measure, it has been recommended to designate the areas with data gaps and the uninvestigated anomaly as exclusion zones during the marine works of the Project to ensure no impact on the seabed from anchoring of work vessels during the marine works of the Project in these locations.

16.12 Hazard to Life

16.12.1.1 Hazard assessments were conducted to assess the risks associated with the planned desalination plant, existing SNG production plant, proposed effluent polishing plant, existing explosives off-loading pier and proposed green fuel station (GFS) during both construction and operational phases of the Project. The results showed that both the individual risks and societal risks, taking into account the population induced by the Project, would be in compliance with the risk criteria stipulated. Thus, no EM&A programme is required.

16.13 Landfill Gas Hazard

16.13.1.1 Landfill gas monitoring is necessary during specific construction and operational phase activities within the 250 m Consultation Zone in order to identify any migration between the landfill and the Project site and to ensure the safety of the Contractor's personnel/occupants.

Construction Phase

16.13.1.2 During the construction phase, safety requirements stated in Chapter 8 - Hazards Arising During Construction of the Landfill Gas Hazard Assessment Guidance Note (LFGHA Guidance Note) should be implemented properly during construction phase.

16.13.1.3 A Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be present on site throughout the ground-works phase. The Safety Officer should be provided with an intrinsically safe portable instrument, which is appropriately calibrated and able to measure methane in the range of 0-100% LEL and 0-100% v/v, carbon dioxide in the range of: 0-100% and oxygen in the range of 0-21%.

16.13.1.4 The monitoring frequency and areas to be monitored should be set down prior to commencement of groundworks either by the Safety Officer or by an appropriately qualified person.

16.13.1.5 Routine monitoring should be carried out in all excavations, manholes and chambers and any other confined spaces that may have been created by, for example, the temporary storage of building materials on the site surface. All measurements in excavations should be made with the monitoring tube located not more than 10 mm from the exposed ground surface.

16.13.1.6 For excavations deeper than 1 m, measurements should be made:

- At the ground surface before excavation commences;

- Immediately before any worker enters the excavation;
- At the beginning of each working day for the entire period the excavation remains open; and
- Periodically through the working day whilst workers are in the excavation.

16.13.1.7 For excavations between 300 mm and 1 m deep, measurements should be made:

- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.

16.13.1.8 For excavations less than 300 mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person.

Operational Phase

16.13.1.9 Project proponents of future developments located within the 250 m Consultation Zone shall conduct a detailed LFGHA following the LFGHA Guidance Note issued by EPD at detailed design stage to re-confirm the landfill gas hazard risk and undertake detailed design of the mitigation measures, as appropriate.

- LFG monitoring should be carried out within the ground floor of buildings and enclosures within the 250 m Consultation zone, prior to the operation and for the first year of operation, monthly monitoring is recommended. Should the monitoring reveal the presence of landfill gas joints sealings shall be inspected and sealed.
- During the operational phase of the Project, prior to entry into service rooms / voids, manholes and chambers, pre-entry monitoring for landfill gases shall be conducted, following the requirements of the Factories and Industrial Undertaking (Confined Spaces) Regulation is recommended.
- In addition, if any construction is required for the maintenance work during operational stage, the responsible party should follow the monitoring works stated in Chapter 8 - Hazards Arising During Construction of the LFGHA Guidance Note.
- Any service voids, manholes or chambers which are large enough to permit access to personnel should be subject to entry safety procedures. Works in confined spaces are controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulation of the Factories and Industrial Undertakings Ordinance and the Safety Guide to Working in Confined Spaces should be followed to ensure compliance with the Regulation.

16.13.1.10 The monitoring programme (e.g. proposed parameters, locations and frequency of landfill gas monitoring) should be submitted to EPD for approval in a detailed LFGHA during the detailed design stage.

16.14 Electric and Magnetic Fields

16.14.1.1 Based on the assessment results, the exposure of the Public to the Electric field and Magnetic field generated from the Electricity Facilities (EFs), and electrical substations (ESSs) are far below the guideline limits issued by the ICNIRP. Cumulative impact from the EFs, ESSs together with their power transmission cables would also comply with the guideline limits issued by the ICNIRP. No adverse electric and magnetic fields impact would be anticipated. No particular EM&A requirements would be considered necessary.

16.14.1.2 As the detailed design information of the proposed EFs is not yet available at the time of the preparation of the Report, the proponent of the EFs would apply for an EP separately, with EIA study as necessary, when the design information is available. Detailed EM&A requirements for the proposed EFs would be reviewed and recommended as necessary in a separate study for the EFs.

16.15 Summary of EM&A Requirements for Schedule 2 Designated Projects Subject to Environmental Permit Application

16.15.1.1 A summary of key EM&A requirements for Schedule 2 Designated Projects (DP) DP1, DP2 and DP3 which would apply for the EP application based on this EIA study is provided in **Table 16.1**. Details are provided in the stand-alone EM&A Manual.

Table 16.1 Summary of Key EM&A Requirements for DP1, DP2 and DP3

Environmental Impact	Summary of EM&A Requirements
DP 1 – Construction and operation of a carriageway bridge for motor vehicles	
Air Quality	• Construction dust monitoring and regular site audit during construction period
Noise	• Construction noise monitoring and regular site audit during construction period • Monitoring of road traffic noise impact during 1st year after road opening or full population intake of protected NSRs, whichever is the latest.
Water Quality	• Marine water quality monitoring and regular site audit during construction period
Sewerage and Sewage Treatment Implications	• N/A
Waste Management Implications	• Regular audits and site inspections should be carried out during construction phase
Land Contamination	• If the recommended further works confirm remediation works is required, regular site audit during construction phase is required to ensure the implementation of proposed mitigation measures effectively
Ecology	• Regular site audit should be carried out throughout the construction phase
Fisheries	• N/A
Landscape and Visual	• Landscape and visual monitoring during construction and 12-month establishment period during operation phase.
Cultural Heritage	• If antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered during the construction works within the Project boundary of TKO 137 and TKO 132, the project proponent is required to inform AMO immediately for discussion of appropriate mitigation measures to be agreed by AMO before implementation by the project proponent to the satisfaction of AMO.
Hazard to Life	• N/A
Landfill Gas Hazard	• No EM&A required as construction and operation of DP1 is outside the landfill 250 m Consultation Zone
Electric and Magnetic Field	• N/A
DP 2 - Construction and operation of Reclamation works	
Air Quality	• Construction dust monitoring and regular site audit during construction period
Noise	• Construction noise monitoring and regular site audit during construction period
Water Quality	• Marine water quality monitoring and regular site audit during the marine construction period.
Sewerage and Sewage Treatment Implications	• NA
Waste Management Implications	• Regular audits and site inspections should be carried out during construction phase
Land Contamination	• N/A
Ecology	• Translocation of affected coral colonies
Fisheries	• N/A

Environmental Impact	Summary of EM&A Requirements
Landscape and Visual	• Landscape and visual monitoring during construction and 12-month establishment period during operation phase
Cultural Heritage	• Monitoring of ground-borne vibration, tilting and ground settlement should be employed for Fat Tau Chau House Ruin SAI (SAI185). • Air Pollution Control (Construction Dust) Regulation shall be followed for Fat Tau Chau House Ruin SAI (SAI185). Dust suppression measures and good site practice should be observed for Fat Tau Chau House Ruin SAI (SAI185). • The areas with data gaps and the uninvestigated anomaly should be designated as archaeological exclusion zones (AEZs) during the marine works of the Project to ensure no impact on the seabed in these locations from anchoring of work vessels. • If antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered during the construction works within the Project boundary of TKO 137 and TKO 132, the project proponent is required to inform AMO immediately for discussion of appropriate mitigation measures to be agreed by AMO before implementation by the project proponent to the satisfaction of AMO.
Hazard to Life	• N/A
Landfill Gas Hazard	• No EM&A required as construction and operation of DP2 is outside the landfill 250 m Consultation Zone
Electric and Magnetic Field	• N/A
DP3 - Construction and operation of TKO 137 Effluent Polishing Plant	
Air Quality	• Construction dust monitoring and regular site audit during construction period • Odour monitoring (in term of H_2S concentration) at inlets and outlets of each DO unit in the first three years upon operation of EPP • Odour patrol during the period of regular and ad hoc maintenance or cleaning of the deodorizing unit of EPP • Odour Complaint Registration System for EPP introduced in EM&A Programme
Noise	• Construction noise monitoring and regular site audit during construction period • Operation noise monitoring for fixed plants during the testing and commissioning stage, subject to detail requirements to be confirmed in the FNMP
Water Quality	• Regular site audit during construction period • Marine water quality monitoring and audit during the first year of EPP operation and in case of emergency discharge from the EPP
Sewerage and Sewage Treatment Implications	• NA
Waste Management Implications	• Regular audits and site inspections should be carried out during construction phase
Land Contamination	• If the recommended further works confirm remediation works is required, regular site audit during construction phase is required to ensure the implementation of proposed mitigation measures effectively
Ecology	• Regular site audit should be carried out throughout the construction phase
Fisheries	• N/A
Landscape and Visual	• Landscape and visual monitoring during construction and 12-month establishment period during operation phase
Cultural Heritage	• If antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered during the construction works within the Project boundary of TKO 137 and TKO 132, the project proponent is required to inform AMO immediately for discussion of appropriate mitigation measures to be agreed by AMO before implementation by the project proponent to the satisfaction of AMO.
Hazard to Life	• N/A

Environmental Impact	Summary of EM&A Requirements
Landfill Gas Hazard	• Project proponents of future developments located within the 250 m Consultant Zone shall conduct a detailed LFGHA following the LFGHA Guidance Note issued by EPD at detailed design stage to re-confirm the landfill gas hazard risk and undertake detailed design of the mitigation measures, as appropriate. • The monitoring programme (e.g. proposed parameters, locations and frequency of landfill gas monitoring) should be submitted to EPD for approval in a detailed LFGHA during the detailed design stage.
Electric and Magnetic Field	• N/A