

Key Assessment Assumptions and Limitation of Assessment Methodologies

Assessment Methodologies	Assessment Assumptions	Limitations of Assessment Methodologies / Assumptions	Prior Agreements with EPD		Proposed Alternative Assessment Tools/ Assumptions (if applicable)
			EIA Study Brief Clause Reference	Relevant Document	
Air Quality Impact					
Construction Phase					
<p>The air quality impact assessment for the Project follows Annex 4 and Annex 12 of the TM-EIAO. Dust emission will be the major air quality impact. Quantitative assessment was carried out by applying AERMOD model.</p>	<p>Based on current tentative construction programme, Year 2021-2023 are taken as the assessment year for construction dust assessment. Both short-term and long-term impacts were assessed based on the phasing schedule provided by Engineer. Subject to the construction work at night-time, construction working period of 12 hours a day was assumed, including weekends and public holidays.</p>	<p>The construction programme is indicative and subject to contractors' actual operation.</p>	<p>Section 3 and 5 of Appendix B</p>	<p>-</p>	<p>N/A</p>
	<p>The prediction of dust emissions is based on the typical values and emission factors obtained from United States Environmental Protection Agency (USEPA) Compilation of Air Pollution Emission Factors, AP-42, 5th Edition.</p>				
	<table border="1"> <tr> <td>Heavy construction activities including reclamation (above water), land clearance, site formation, ground excavation, construction of associated facilities etc.</td> <td>E = 2.69 Mg/hectare/ month of activities</td> </tr> <tr> <td>Wind erosion including surcharge activities</td> <td>E = 0.85 Mg/hectare/year</td> </tr> </table>				
Heavy construction activities including reclamation (above water), land clearance, site formation, ground excavation, construction of associated facilities etc.	E = 2.69 Mg/hectare/ month of activities				
Wind erosion including surcharge activities	E = 0.85 Mg/hectare/year				

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	Watering once per hour on exposed worksites is proposed to achieve dust removal efficiency of 91.7% in accordance with the "Control of Open Fugitive Dust Sources" (USEPA AP-42).				
Operational Phase					
The air quality impact assessment for the Project follows Annex 4 and Annex 12 of the TM-EIAO. Industrial emissions from Tai Po Industrial Estate (TPIE) modelled by AERMOD. Vehicular emission impact was due to traffic at Ting Kok Road, Dai Kwai Street, Dai Cheong Street etc. modelled by CALINE4 and EMFAC-HK. Marine emissions associated with the operation of cement depot cum concrete batching plants at Yu On Street modelled by AERMOD. Quantitative odour impact from Tai Po Sewerage Treatment Works (TPSTW) and committed Food Waste Pre-treatment Facilities (FWPF) modelled by AERMOD.	Industrial emissions are made reference to the nearby Specified Process (SP) Licenses, by taking their averaged values and modelled by AERMOD. Vehicular emissions from open road was based on modeling results of EMFAC-HK v3.4. The cumulative air quality impact due to vehicular emission was predicted by Caline4 model. Marine emissions are made reference to the EPD approved study on marine vessels emission inventory issued in Year 2012. Background concentrations at Year 2020 from PATH-2016 adopted for cumulative air quality assessment. Odour emissions adopted based on the latest Environmental Permit held by TPSTW (EP-265/2007/A).	A conservative approach, assuming industrial emissions would similar to emissions from SP nearby; marine vessel travelling at every hour during the operation of the cement depot cum concrete batching plants; and vehicular emission to be the highest in Year 2024. The actual situation may be better than that of the model prediction.	Section 4 and 5 of Appendix B	-	N/A
Hazard to Life					
The hazard to life assessment follows Section 3.4.5.1 in the EIA Study Brief, where the estimated number of construction workers, visitors and staff for the Project have been checked against the prevailing risk assessment findings carried out in the vicinity of the	Population arrangement of the Project which partially fall within the Consultation Zone of Tai Po Gas Production Plant has been recommended as follows: <ul style="list-style-type: none"> No permanent working / residential population within the CZ; and 	The population arrangement is assumed to be properly maintained during construction and operational phase of the Project.	Section 3.4.5	-	N/A

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Project.	<ul style="list-style-type: none"> Daily average of 20 transient visitors within the CZ during the operational phase. The Golf Course operator will implement a booking system such that the operator would be able to monitor the daily average and make sure it would not be exceeded. 				
Noise Impact					
Construction Phase (Construction Noise)					
The noise impact assessment for the Project follows Annex 5 and Annex 13 of the TM-EIAO. In accordance with the EIAO, the methodology outlined in the GW-TM was used for construction noise assessment.	Sound power level (SWL) of the Powered Mechanical Equipment (PME) was based in Table 3 of GW-TM, the QPME system adopted by EPD and “SWL of other commonly used PME” on EPD’s website.	The prediction of construction noise impacts are based on GW-TM. The SWL of PME was based in GW-TM and QPME system. The actual situation may be better than that of the prediction.	Section 2 of Appendix D	-	N/A
	It is assumed that all PME items required for a particular construction activity will be located at the notional source position of the work areas. The assessment was based on the cumulative SWL of PME likely to be used in each work areas, taking into account the construction period in the vicinity of the receiver location. To predict the construction noise impacts, PME were divided into groups required for individual construction activity. The objective is to identify the worst case scenario representing those items of PME that will be in use concurrently at any given time. The sound pressure level of individual construction activity was calculated, depending on the number of PME and distance from receivers. The noise levels at NSRs were then predicted by the sum of SWLs of all concurrent construction activities with their	In carrying out the assessment, worst case assumptions have been assumed in order to provide conservative noise impact assessments such as locating all the PME at the notional source position.			

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	<p>respective distance correction.</p> <p>A positive 3dB(A) facade correction was added to the predicted noise levels in order to account for the facade effect at each NSR.</p> <p>On-time percentages of utilization rates for were reasonably assumed by Engineer.</p>				
Operational Phase (Fixed Noise Sources)					
<p>The noise impact assessment for the Project follows Annex 5 and Annex 13 of the TM-EIAO.</p> <p>The assessment was carried out based on the assumed location of the planned fixed noise sources and their associated maximum Sound Power Levels (SWLs) using standard acoustic principle for attenuation and predicted the fixed noise impacts at the representative NSRs to determine if relevant noise criteria could be met.</p>	<p>The assessment has been based on the best available information, which includes the location of the planned fixed noise sources and their associated maximum SWLs.</p>	<p>Location of the planned fixed noise sources and their associated maximum SWLs may vary and is subject to the Contractor's choice of equipment.</p>	<p>Section 3 of the Appendix D.</p>	-	N/A
Water Quality Impact					
Construction Phase					
<p>Assessment of water quality impact in construction phase refers the methodology in Annex 6 and Annex 14 of the TM-EIAO.</p> <p>The water quality impact during the construction phase were identified. Mitigation measures are recommended for the identified source of water pollution to minimise the potential</p>	<p>The types of water pollution to be generated from the Project are based on the Project design and / or engineering assessments.</p>	-	Appendix E	N/A	N/A

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water quality impacts.					
Operational Phase					
<p>Assessment of water quality impact in operational phase refers the methodology in Annex 6 and Annex 14 of the TM-EIAO.</p> <p>The water quality impact during the operational phase were identified. Mitigation measures are recommended for the identified source of water pollution to minimise the potential water quality impacts.</p>	<p>Assumptions made in the assessment are based on the Turfgrass Management Plan and the Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung EIA Study, as well as the Project design.</p> <p>The residual percentage of fertilizer (1.6% for TIN and 0.6% for TP) and the residual percentage of insecticide and fungicide (0.00072%) are determined based on the information and data from the approved Kau Sai Chau EIA (AEIAR-091/2005).</p>	-	Appendix E	N/A	N/A
Waste Management Implication					
<p>The waste assessment for the Project follows</p> <ul style="list-style-type: none"> • TM-EIAO Annex 7 and Annex 15 • Waste Disposal Ordinance (Cap. 354); • Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C); • Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Public Health and Municipal Services Ordinance (Cap. 132) - Public Cleansing and Prevention of Nuisances Regulation; and • Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). 	<p>Waste generated in the construction phase are determined based on the design of the project and are advised by the engineer.</p> <p>Waste generated in the operational phase is determined based on population parameters and land use of the proposed project.</p>	-	Appendix F	-	N/A
Land Contamination Impact					

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<p>The land contamination assessment for the Project follows</p> <ul style="list-style-type: none"> Annex 19 of the Technical Memorandum on Environmental Impact Assessment Process (TM-EIAO), Guidelines for Assessment of Impact On Sites of Cultural Heritage and Other Impacts (Section 3 : Potential Contaminated Land Issues), EPD, 1997; Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management, EPD, 2007; Guidance Notes for Contaminated Land Assessment and Remediation, EPD, 2007; Practice Guide for Investigation and Remediation of Contaminated Land, EPD, 2011 	<p>Assumptions made in the assessment are based on latest boundary of the Project and the works of the Project, as well as current, historical and future land uses.</p>	-	Appendix G	-	N/A
Landfill Gas Hazard					
Construction and Operational Phases					
<p>The landfill gas hazard assessment follows</p> <ul style="list-style-type: none"> Annexes 7 and 19 of the TM-EIAO; Landfill Gas Hazard Assessment Guidance Note (1997) (EPD/TR8/97) 	<p>The assessment is based on the 2012-2016 monitoring data of Shuen Wan Restored Landfill provided by EPD.</p>	<p>Continuous landfill gas monitoring should be undertaken during construction and operational phases of the Project.</p>	Section 3.4.10 and Appendix H	-	N/A
Ecological Impact					
<p>The ecological impact assessment follows Annexes 8 and 16 of the TM-EIAO.</p>	<p>Assumptions made in the assessment are based on latest layout.</p>	<p>Ecological baseline is based on literature review as well as habitat, flora and fauna surveys. Surveys were taken in representative locations and transect routes</p>	Section 3.4.11 and Appendix I	-	N/A

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		inside and in the vicinity of the Project Site as well as the assessment area. Baseline descriptions are considered sufficiently representative to allow subsequent assessments to be made.			
Fisheries Impact					
The fisheries impact assessment follows Annexes 9 and 17 of the TM-EIAO.	Assumptions made in the assessment are based on latest layout.	Fisheries baseline is based on literature review. Baseline descriptions are considered sufficiently representative to allow subsequent assessments to be made.	Section 3.4.12 and Appendix J	-	N/A
Landscape and Visual Impact					
The landscape and visual impact assessment follows Annexes 10 and 18 of the TM-EIAO and the EIAO Guidance Note No.8/2010.	<p>Assessment assumptions are listed in the methodology stated in Section 12 Landscape and Visual Impact Assessment Section 12.3 of this EIA report.</p> <p>Selected viewpoints for the preparation of photomontages to demonstrate the landscape and visual changes as a result of the Project are located at public accessible area and agreed with EPD and PlanD Urban Design Unit.</p>	<p>Assessment of landscape and visual baseline is based on literature review, government survey maps and aerial photographs and site visits. There is limitation on review the baseline condition in private properties and inaccessible areas.</p> <p>Photographic record of Landscape Resources (LRs), Landscape Character Areas (LCAs) and Visual Sensitive Receivers (VSRs) are taken at the public accessible location to the nearest and representative of the above.</p> <p>A tree group survey is undertaken for this EIA according to the Study Brief. It is sufficiently representing the potential tree impact as a result of the Project and impact on landscape resources. Detailed tree preservation and removal application</p>	Section 3.4.13 and Appendix K	Enquiry letter to EPD and PlanD Urban Design Unit for the selection of viewpoints for the preparation of photomontages.	N/A

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		<p>is required for government approval.</p> <p>Assessment on PVSRs of planned development and potential cumulative impact with concurrent project is based on information available through public channels. Impact significance will change following the development of these planned or on-going projects.</p>			