

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
1.	BACKGROUND	
1.1	<p>An application (No. ESB-285/2015) for an Environmental Impact Assessment (EIA) Study Brief under section 5(1)(a) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the Applicant on 18 March 2015 with a Project Profile (No. PP-523/2015) (hereinafter referred as the “Project Profile”).</p> <p>The Applicant proposes to conduct a planning and engineering feasibility study, "Tung Chung New Town Extension" (the Project), to explore the development potential and opportunities of Tung Chung and its adjacent areas, to determine the scope of Tung Chung extension and to improve the community and regional facilities. The key objective is to recommend a preferred development scheme for the territorial long-term needs. The Potential Development Areas (PDAs) of the Project involved development of a total area of about 240 hectare with about 120 hectare of land to be reclaimed at the eastern part of the Tung Chung New Town (TCE) and another 120 hectare of existing land at the western part of the Tung Chung New Town (TCW). The locations of the PDAs and the Study Area of the Project are shown in the figure attached in the Project Profile which is reproduced as shown in Appendix A of this EIA Study Brief. The Project mainly comprises the following works:</p> <p>(i) Reclamation of 120 hectare of land for formation of TCE;</p> <p>(ii) Reclamation of 9 hectare of land for extension of Road P1 from Tung Chung to Tai Ho;</p> <p>(iii) Construction of District Distributor roads and sewage pumping stations with capacity more than 2,000m<sup>3</sup>/day within PDAs (locations to be confirmed);</p> <p>(iv) Upgrading of the existing Chung Mun Road sewage pumping station from the existing capacity of about 3,500 m<sup>3</sup>/day to a proposed capacity of over 4,500 m<sup>3</sup>/day and a few sections of the existing rising mains/sewers close to the PDA at TCW;</p> <p>(v) Construction of a marina with about 95 berths at the PDA at TCE;</p> <p>(vi) Construction of an outdoor sporting facility with a capacity of over 10,000 persons;</p> <p>(vii) Construction of a petrol filling station with an area of about 800m<sup>2</sup>;</p> <p>(viii) Construction of two service reservoirs, including one for fresh water and the other for flushing water, with capacities of 55,000 m<sup>3</sup> and 11,000 m<sup>3</sup> respectively;</p> <p>(ix) Construction of about 4 km long of twin rising mains at TCE connecting a proposed sewage pumping station within the PDA at TCE to the existing Siu Ho Wan (SHW) Sewage Treatment Works (STW); while the upgrading works required for the existing SHW STW will not be undertaken in this Project;</p> <p>(x) Construction of a possible waterfront promenade at the coastal area of proposed Town Park;</p> <p>(xi) De-channelization of the existing channelized section of Tung Chung Stream for environmental enhancement and amenity uses as a river park;</p> <p>(xii) Construction of possible environmental enhancement and amenity uses as a river park in the land adjacent to the immediate upstream of the channelized section of Tung Chung Stream to Shek Mun Kap;</p> <p>(xiii) Construction of a comprehensive network of cycle track of 12km long along the proposed distributor roads, waterfront promenade, walkways and along future Road P1 from Tung Chung to Tai Ho;</p> <p>(xiv) Construction of a possible cycle park with an area of about 1.4ha to be surrounded by slip roads connecting the future Tai Ho Interchange to integrate with the cycle tracks in TCE;</p> <p>(xv) Construction of a sustainable urban drainage system within TCW which may comprise polders, dual-purpose flood attenuation and stormwater treatment ponds (locations and extent to be confirmed);</p> <p>(xvi) Construction of a village sewerage system for the unsewered villages within TCW (location and extent of the sewerage to be confirmed); and</p> <p>(xvii) Space provision of facilities for suitable green initiatives such as regional energy efficiency system and environmentally friendly systems (such as electric buses, electric cars and bicycle sharing system).</p> <p>The above scope of works is tentative and subject to adjustment and revision during the course of the study.</p>	<p>The process of study brief application is described in Section 1.3.1 of the report.</p> <p>Project components are described in Section 1.2.</p>
1.2	<p>The Project is a designated project under Item 1 of Schedule 3 of the EIAO having satisfied that an "Engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100,000". The Project comprises the PDAs and the works that may fall under Schedule 2 of the EIAO. Some of the works identified so far as being Designated Projects in Part I, Schedule 2 of the EIAO, are listed as follows:</p> <p>(i) construction of primary distributor roads and district distributor roads (Item A.1);</p> <p>(ii) construction of a road more than 100m in length between abutments (Item A.8);</p> <p>(iii) reclamation works (including associated dredging works) more than 5 ha in size (Item C.1);</p> <p>(iv) possible dredging operation exceeding 500,000 m<sup>3</sup>(Item C.12);</p> <p>(v) construction of sewage pumping stations with capacity of more than 2,000 m<sup>3</sup> per day (Item F.3);</p> <p>(vi) construction of a marina designed to provide moorings or dry storage for not less than 30 vessels used primarily for pleasure of recreation (Item O.2); and</p> <p>(vii) construction of an outdoor sporting facility with a capacity to accommodate more than 10,000 persons (Item O.7).</p>	Designated Projects which are potentially relevant to the Project are described in Section 1.4.
1.3	Pursuant to section 5(7)(a) of the EIAO, the Director of Environmental Protection (the Director) issues this EIA Study Brief to the Applicant to carry out an EIA study.	The process of study brief application is described in Section 1.1.3 - 1.1.6 of the report. The EIA has been carried out in accordance with the study brief and compliance is demonstrated below.
1.4	<p>The purpose of this EIA study is to provide information on the environmental impacts arising from the construction and operation of the developments and associated activities that will take place concurrently. This information will contribute to decisions by the Director on:</p> <p>(i) the acceptability of adverse environmental consequences that are likely to arise as a result of the Project and its staged implementation;</p> <p>(ii) the conditions and requirements for the design, construction and operation of the Project to mitigate against adverse environmental consequences; and</p> <p>(iii) the acceptability of residual impacts, if any, after the proposed mitigation measures are implemented.</p>	Noted.

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1.5	An EIA study brief (No. ESB-251/2012) was first issued to the Applicant on 28 August 2012 for the “Tung Chung New Town Development Extension” project which was subsequently renamed as “Tung Chung New Town Extension”. Following this, another EIA study brief (No. ESB-283/2014) was then issued to the Applicant on 28 January 2015 to cater for certain key changes to the scope of the Project. As a result of further key changes to the scope of the Project recently, the Applicant has now applied for a fresh EIA study brief to cater for these changes.	The process of study brief application is described in Section 1.1.3 - 1.1.6 of the report.
2	<b>OBJECTIVES OF THE EIA STUDY</b>	
2.1	<p>The objectives of the EIA study are as follows :</p> <p>(i) to describe the proposed project(s) and associated works together with the requirements and environmental benefits for carrying out the proposed project(s);</p> <p>(ii) to identify and describe the elements of the community and environment likely to be affected by the proposed project(s), and/or likely to cause adverse impacts to the proposed project(s), including both the natural and man-made environment and the associated environmental constraints;</p> <p>(iii) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potentially affected uses;</p> <p>(iv) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;</p> <p>(v) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;</p> <p>(vi) to propose the provision of infrastructure or mitigation measures to minimize pollution, environmental disturbance and nuisance during construction and operation of the project(s);</p> <p>(vii) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;</p> <p>(viii) to identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and the cumulative effects expected to arise during the construction and operation phases of the project(s) in relation to the sensitive receivers and potential affected uses;</p> <p>(ix) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the project(s) which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;</p> <p>(x) to design and specify the environmental monitoring and audit requirements; and</p> <p>(xi) to identify any additional studies necessary to implement the mitigation measures or monitoring and proposals recommended in the EIA report.</p>	The objectives of the EIA study are described in Section 1.6.
3	<b>DETAILED REQUIREMENTS OF THE EIA STUDY</b>	
3.1	<b>The Purpose</b>	
3.1.1	The purpose of this EIA Study Brief is to set out the purposes and objectives of the EIA study, the scope of environmental issues which shall be addressed, the requirements that the EIA study shall need to fulfil, and the necessary procedural and reporting requirements. The Applicant shall demonstrate in the EIA report that the criteria in the relevant sections of the Technical Memorandum on Environmental Impact Assessment Process of the EIAO (hereinafter referred to as the “TM”) are complied with.	<p>The purpose of the EIA study brief is described in Section 1.3.2.</p> <p>A summary which points out the relevant EIA sections fulfilling the respective requirements of the EIA study brief and TM is provided in Appendix 1.1 of the report.</p>
3.2	<b>The Scope</b>	
3.2.1	<p>The scope of this EIA study shall cover the Project mentioned in sections 1.2 and 1.3 of this EIA Study Brief. The EIA study shall address the key issues described below, together with any other key issues identified during the course of the EIA study:</p> <p>(i) comparison of the environmental benefits and dis-benefits of different development options of the Project with a view to deriving preferred development option(s) for Tung Chung New Town Extension that would avoid adverse environmental impact;</p> <p>(ii) potential air quality impact on air sensitive receivers due to the construction and operation of the Project, including dust, gaseous emissions and odour (if applicable);</p> <p>(iii) potential noise impact on noise sensitive receivers due to the construction and operation of the Project, including noise impact from aircraft noise, rail noise, helicopter noise, road traffic, fixed noise sources and marine traffic (if applicable);</p> <p>(iv) potential water quality impact caused by the Project and associated works such as site formation, reclamation, sewerage provisions, drainage diversion arising from the construction and operation of the Project;</p> <p>(v) potential sewerage and sewage treatment implications to cope with discharges from population and any development from the Project, taking into account the capacity requirements for the existing, committed and planned developments within the sewage catchment;</p> <p>(vi) potential waste management issues and impacts arising from the construction and operation of the Project, including handling and disposal of construction and demolition materials and chemicals generated from the recycling facilities (if applicable);</p> <p>(vii) potential land contamination arising from the Project;</p> <p>(viii) potential impact on recognized sites of conservation importance and other ecologically sensitive areas in the PDAs and its vicinity, due to the construction and operation of the Project;</p> <p>(ix) potential fisheries impacts, in particular on fishing grounds, spawning and nursery grounds, and fisheries activities, due to the construction and operation of the Project;</p> <p>(x) potential landscape and visual impacts due to the construction and operation of the Project;</p> <p>(xi) potential impacts on sites of cultural heritage due to construction and operation of the Project; and</p> <p>(xii) potential cumulative environmental impacts of the Project, through interaction or in combination with other existing, committed and planned projects, and that the impacts of these projects may have a bearing on the environmental acceptability of the Project.</p>	<p>The scope and structure of the EIA report is described in Section 1.9 of the report.</p> <p>Comparison of the environmental aspects of different development options of the Project is discussed in Sections 2.3 and 2.5 of the report.</p> <p>Potential air quality impacts on air sensitive receivers during construction and operation of the Project are discussed in Sections 3.4 - 3.5 of the report.</p> <p>Potential noise impacts on Noise Sensitive Receivers (NSRs) during construction and operation of the Project are discussed in Sections 4.3 - 4.11.</p> <p>Potential water quality impacts caused by the Project and associated works during construction and operation of the Project are discussed in Sections 5.4 - 5.6.</p> <p>Potential sewerage and sewage treatment implications to cope with discharges from population and any development from the Project are discussed in Sections 6.4 - 6.7.</p> <p>Potential waste management issues and impacts arising from construction and operation of the Project are discussed in Sections 7.3 - 7.4.</p> <p>Potential land contamination issues arising from the Project are discussed in Sections 8.3 - 8.5.</p> <p>Potential impacts on recognized sites of conservation importance and other ecologically sensitive areas in the PDAs and its vicinity during construction and operation of the Project are discussed in Sections 9.5 - 9.12.</p> <p>Potential fisheries impacts during construction and operation of the Project are discussed in Sections 10.6 - 10.10.</p> <p>The potential landscape and visual impacts due to the Project are discussed in Section 11.5 - 11.13.</p> <p>Potential impacts on sites of cultural heritage during construction and operation of the Project are discussed in Sections 12.4 - 12.7.</p> <p>Potential cumulative environmental impacts of the Project, through interaction or in combination with other concurrent projects, are discussed in Section 1.8.</p>
3.3	<b>Consideration of Alternative</b>	
3.3.1	<p><u>Need of the Project</u></p> <p>The Applicant shall provide information on the need of the Project, including the purpose and objectives of the Project, and describe the scenarios with and without the Project.</p>	The need of the Project and the scenarios with and without the Project are described in Sections 2.1 and 2.2 respectively.
3.3.2	<p><u>Consideration of Different Development Option(s) and Land Uses</u></p> <p>The Applicant shall present in the EIA report the consideration of alternative development option(s) for the Project, including descriptions of environmental factors considered in the option selection, with a view to avoiding adverse environmental effects.</p>	Alternative development options for the Projects including the environmental factors considered are described in Sections 2.3 and 2.5.

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3.3.3	<b>Selection of Preferred Scenario</b> The Applicant shall, taking into consideration of the findings in section 3.3.2 above, describe the reasons for selecting the preferred scenario(s) and the part that environmental factors played in the selection.	The reasons for selecting the preferred scenarios and the part that environmental factors played in the selection are described in Sections 2.3 and 2.5.
3.4	<b>Technical Requirements</b> The Applicant shall conduct the EIA study to address the environmental aspects of the Project as described in section 3.2 above. The assessment shall be based on the best and latest information available during the course of the EIA study. The EIA report shall include the construction and operational programme and methodologies for assessing environmental impacts of the Project. The EIA report shall provide the time frame, staged implementation programme, and works programmes of the Project and other concurrent projects, and for assessing the cumulative environmental impacts from the Project and the interacting projects as identified in the EIA study. The EIA study shall follow the technical requirements specified below and in the Appendices of this EIA study brief.	<p>The EIA report addresses the environmental aspects of the Project as described in section 3.2 of the study brief. The scope and structure of the EIA report is described in Section 1.9 of the report.</p> <p>The assessment has been carried out based on the best and latest information available during the course of the EIA study.</p> <p>The construction and operation programme of the Project is described in Section 2.9.</p> <p>The methodologies for assessing environmental impacts of key environmental issues of the Project as stated in Section 3.2 of the study brief are described under the corresponding EIA sections for each individual environmental issues.</p> <p>The time frame and implementation programme of the Project and other concurrent projects are described in Section 2.9 and 1.8 respectively. The detail proposed outline development programme of the Project is also provided in Appendix 2.7.</p> <p>The EIA study follows the specified technical requirement in the EIA study brief as shown in this checklist.</p>
3.4.1	<b>Air Quality Impact</b>	
3.4.1.1	The Applicant shall follow the criteria and guidelines as stated in section 1 of Annex 4 and Annex 12 of the TM respectively, for evaluating and assessing air quality impact.	Annex 4 and Annex 12 of the TM-EIAO have been referenced when evaluating and assessing air quality impacts of the Project as stated in Section 3.1.1.1 of the report.
3.4.1.2	The assessment area for the air quality impact assessment shall be defined by a distance of 500 metres from the boundary of the PDAs and the works of the Project within the Study Area as identified in the EIA, which shall be extended to include major existing, committed and planned air pollutant emission sources identified to have a bearing on the environmental acceptability of the Project. The assessment shall include the existing, committed and planned sensitive receivers within the assessment area. The assessment shall be based on the best available information at the time of the assessment.	<p>A distance of 500 metres from the boundary of the PDAs and the works of the Project within the Study Area is defined as the assessment area as mentioned in Sections 3.4.1 and 3.5.1 of the report.</p> <p>Key existing, committed and planned air pollutant emission sources in the vicinity of the PDAs have been identified and are described in Sections 3.4.2 - 3.4.3 and 3.5.2 - 3.5.3 of the report.</p> <p>Key existing, committed and planned sensitive receivers within the assessment area are identified and described in Section 3.2 of the report.</p>
3.4.1.3	The assessment of the air quality impact arising from the construction and operation of the Project shall follow the detailed technical requirements given in Appendix B of this EIA Study Brief.	The assessment of the air quality impacts arising from construction and operation of the Project has followed the detailed technical requirement given in Appendix B of the EIA study brief as mentioned in various parts of the report including Sections 3.3.2.1, 3.4.8.5, 3.5.3.1, 3.5.4.6 and 3.5.6.10 of the report.
3.4.1.4	The Applicant shall assess the air pollutant concentrations with reference to the relevant sections of guidelines given in Appendix-B-1 attached to this EIA Study Brief, or the methodology as agreed by the Director.	<p>Guidelines given in Appendix B-1 attached to the EIA study brief have been followed in assessing the air pollutant concentrations. The referenced guidelines are mentioned in relevant parts of the report including Sections 3.3.3.3, 3.4.4.6, 3.4.4.7, 3.4.4.19, 3.5.4.16, 3.5.4.23, 3.5.4.30 and 3.5.4.38 of the report.</p> <p>Please also see the compliance check for Appendix B-1 items below.</p>
3.4.2	<b>Noise Quality Impact</b>	
3.4.2.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing noise impact as stated in Annexes 5 and 13 of the TM respectively.	Annex 5 and Annex 13 of the TM-EIAO have been referenced when evaluating and assessing noise impacts of the Project as stated in Section 4.1.1 of the report.
3.4.2.2	Assessment shall include construction noise, road traffic noise, fixed noise sources, aircraft noise, rail noise, helicopter noise and marine traffic noise impact assessment of the existing, committed and planned NSRs earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board, in the vicinity of the project.	<p>The existing NSRs are identified by means of topographic maps, aerial photos, land status plans, S.16 / S.12a Town Planning Ordinance and site inspections as described in Section 4.2.4. Planned / committed NSRs are identified by making reference to relevant Outline Zoning Plans (OZP), Outline Development Plans (ODP), Layout Plans and other published plans in relation to the Planning and Development on Lantau as described in Section 4.2.4.</p> <p>Assessment has included construction noise, road traffic noise, fixed noise sources, aircraft noise, rail noise, helicopter noise and marine traffic noise impact assessment. Details of assessments in relevant sections are listed below:</p> <ul style="list-style-type: none"><li>- Construction noise: Sections 4.3 and 4.4</li><li>- Road traffic noise: Section 4.5</li><li>- Fixed noise sources: Section 4.6</li><li>- Aircraft noise: Section 4.7</li><li>- Rail noise: Sections 4.8 and 4.9</li><li>- Helicopter noise: Section 4.10</li><li>- Marine traffic noise: Section 4.11</li></ul>
3.4.2.3	The noise impact assessment of the Project shall follow the detailed technical requirements given in Appendix C of this EIA Study Brief.	See compliance check for Appendix C items below.
3.4.3	<b>Water Quality Impact</b>	
3.4.3.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing water pollution as stated in Annexes 6 and 14 of the TM respectively.	Annex 6 and Annex 14 of the TM-EIAO have been referenced when evaluating and assessing water quality impacts of the Project as stated in Section 5.1.1.1 of the report.
3.4.3.2	The assessment area for the water quality impact assessment shall include the North Western Water Control Zone, North Western Supplementary Water Control Zone, Western Buffer Water Control Zone as designated under the Water Pollution Control Ordinance (Cap. 358) and the water sensitive receivers in the vicinity of the Project. The assessment area can be extended to include other areas such as stream courses, existing and new drainage system and the associated water system(s) in the vicinity, if they are found also being likely to be affected by the Project during the EIA study and have a bearing on the environmental acceptability of the Project.	Assessment has included North Western Water Control Zone, North Western Supplementary Water Control Zone, Western Buffer Water Control Zone and the water sensitive receivers in the vicinity of the Project as stated in Section 5.2.1 and 5.3.2.
3.4.3.3	The water quality impact assessment for the construction and operation of the Project shall follow the detailed technical requirements given in Appendix D of this EIA Study Brief.	See compliance check for Appendix D items below.
3.4.4	<b>Sewerage and Sewage Treatment Implications</b>	
3.4.4.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing impacts on the downstream public sewerage, sewage treatment and disposal facilities as stated in section 6.5 in Annex 14 of the TM respectively.	Annex 14 of the TM-EIAO have been referenced when evaluating and assessing water quality impacts of the Project as stated in Section 6.1 of the report.

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3.4.4.2	The assessment of the sewerage and sewage treatment implications for the Project shall follow the detailed technical requirements given in Appendix E of this EIA Study Brief.	See compliance check for Appendix E items below.
3.4.5	<b>Waste Management Implications</b>	
3.4.5.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing waste management implications as stated in Annexes 7 and 15 of the TM respectively.	Annex 7 and Annex 15 of the TM-EIAO have been referenced when evaluating and assessing waste management implications of the Project as stated in Section 7.1.1.1 of the report.
3.4.5.2	The assessment of the waste management implications arising from the construction and operation of the Project shall follow the detailed technical requirements given in Appendix.F of this EIA Study Brief.	See compliance check for Appendix F items below.
3.4.6	<b>Land Contamination</b>	
3.4.6.1	The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issue( s) as stated in sections 3.1 and 3.2 of Annex 19 of the TM respectively.	Annex 19 of the TM-EIAO have been referenced when evaluating and assessing potential land contamination issues of the Project as stated in Section 8.1.1.1 of the report.
3.4.6.2	The assessment of the potential land contamination issue(s) shall follow the detailed requirements given in Appendix G of this EIA Study Brief.	See compliance check for Appendix G items below.
3.4.7	<b>Ecological Impact (Terrestrial and Marine)</b>	
3.4.7.1	The Applicant shall follow the criteria and guidelines for evaluating and assessmg ecological impact as stated in Annexes 8 and 16 of the TM respectively.	Annex 8 and Annex 16 of the TM-EIAO have been referenced when evaluating and assessing ecological impacts of the Project as stated in Section 9.2.1.1 of the report.
3.4.7.2	The assessment area for the terrestrial ecological impact assessment shall include areas within 500 metres from the boundary of the PDAs and areas likely to be impacted by the Project. For marine ecological impact assessment, the assessment area shall be the same as the assessment area for Water Quality Impact Assessment described in section 3.4.3.2 of this EIA Study Brief or the areas likely to be impacted by the Project.	The assessment area for ecology has followed this SB requirement and described in Section 9.4.1.
3.4.7.3	The assessment of the ecological impact for the construction and operation of the Project shall follow the detailed technical requirements given in Appendix H of this EIA Study Brief.	See compliance check for Appendix H items below.
3.4.8	<b>Fisheries Impact</b>	
3.4.8.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing fisheries impact as stated in Annexes 9 and 17 of the TM respectively.	Annex 9 and Annex 17 of the TM-EIAO have been referenced when evaluating and assessing fisheries impacts of the Project as stated in Section 10.1.1.1 of the report.
3.4.8.2	The assessment area shall be the same as that for the water quality impact assessment. This assessment area shall be extended to include other areas if they are found also being likely to be impacted by the construction or operation of the Project during the course of the EIA study and have a bearing on the environmental acceptability of the Project. Special attention should be given to potential loss or disturbance of fishing ground, fisheries habitat, spawning and nursery grounds, water quality deterioration at sensitive receivers such as fish culture zones or artificial reefs.	The assessment area for the fisheries impact assessment is the same as that for the water quality impact assessment as mentioned in Sections 10.1.1 and 10.2.1.
3.4.8.3	The fisheries impact assessment for construction and operation of the Project shall follow the detailed technical requirements given in Appendix I of this EIA Study Brief.	See compliance check for Appendix I items below.
3.4.9	<b>Landscape and Visual Impact</b>	
3.4.9.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing landscape and visual impacts as stated in Annexes 10 and 18 of the TM respectively, and the EIAO Guidance Note No. 8/2010 "Preparation of Landscape and Visual Impact Assessment under the EIAO".	‘Section 11.3 Assessment Methodology’ have discussed the assessment methodologies under “Annexes 10 and 18 of the TM respectively, and the EIAO Guidance Note No. 8/2010 "Preparation of Landscape and Visual Impact Assessment under the EIAO".
3.4.9.2	The assessment area for the landscape impact assessment shall include landscape character areas and landscape resources within 500 metres from the boundary of the PDAs and the works of the Project within the Study Area as identified in the EIA, while the assessment area for the visual impact assessment shall be defined by the visual envelope of the Proj ect. The extent of the defined visual envelope shall be shown on a plan and documented in the EIA report.	The identification methodology of assessment area is discussed in Sections 11.3.1.1 and 11.3.1.2. The specific assessment area of the Project on landscape character areas and landscape resources are discussed in Section 11.5.1. And the assessment area of visual impact assessment has been considered in Section 11.9.1. Relative Fig.11.2a, Fig.11.3a and Fig.11.4a - 11.4d have showed the assessment areas and visual envelope.
3.4.9.3	The landscape and visual impact assessment for the construction and operation of the Project shall follow the detailed technical requirements given in Appendix J of this EIA Study Brief.	See compliance check for Appendix J items below.
3.4.10	<b>Impact of Cultural Heritage</b>	
3.4.10.1	The Applicant shall follow the criteria and guideline for evaluating and assessing the cultural heritage impacts as stated in Annexes 10 and 19 of the TM respectively.	Annex 10 and Annex 19 of the TM-EIAO have been referenced when evaluating and assessing cultural heritage impacts of the Project as stated in Section 12.1.1.1 of the report.
3.4.10.2	The cultural heritage impact assessment shall include a built heritage impact assessment (BHIA), an archaeological impact assessment (AIA) and a marine archaeological investigation (MAI). Details of the technical requirements of the BHIA, AIA and MAI are shown in Appendix K.	The cultural heritage impact assessment has been carried out according to the requirements and guidelines stated in Appendix K. See compliance check for Appendix K items below.
3.4.11	<b>Environmental Monitoring and Audit (EM&amp;A) Requirement</b>	
3.4.11.1	The Applicant shall identify and justify in the EIA study whether there is any need for EM&A activities during the construction and operational phases of the Project and, if affirmative, to define the scope of EM&A requirements for the Project in the EIA study.	EM&A programmes, if required, have been set and described under corresponding EIA sections for the individual environmental issue. It has been identified that the following sections and relevant monitoring would be required due to impacts identified in the EIA: Air - Construction and operation air quality monitoring Noise - Construction noise and road traffic noise monitoring Water - Construction and operation phase water quality monitoring Sewage & Sewerage Treatment - Construction and operation phase monitoring Waste Management - Construction and operation phase weekly site audit Land Contamination - Regular site audit during construction phase Terrestrial Ecology - Pre-construction survey to determine and decide on detail EM&A monitoring Marine Ecology - Pre-construction coral dive survey, CWD baseline (pre-construction), construction, post-construction and operation phase surveys Fisheries - Compliance check on design, implementation and maintenance of water quality mitigation measures Landscape and Visual - Compliance check on design, implementation and maintenance of mitigation measures Cultural Heritage - Compliance check on design, implementation and maintenance of mitigation measures

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3.4.11.2	Subject to the confirmation of the EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM.	Requirements described in Annex 21 of the TM-EIAO are described in the EM&A Manual. EM&A programmes, if required, have been set and described under corresponding EIA sections for the individual environmental issue. It has been identified that the following sections and relevant monitoring would be required due to impacts identified in the EIA: Air - Construction and operation air quality monitoring Noise - Construction noise and road traffic noise impact monitoring Water - Construction and operation phase water quality monitoring Sewage & Sewerage Treatment - Construction and operation phase monitoring Waste Management - Construction and operation phase weekly site audit Land Contamination - Regular site audit during construction phase Terrestrial Ecology - Pre-construction survey to determine and decide on detail EM&A monitoring Marine Ecology - Pre-construction coral dive survey, CWD baseline (pre-construction), construction, post-construction and operation phase surveys Fisheries - Compliance check on design, implementation and maintenance of water quality mitigation measures Landscape and Visual - Compliance check on design, implementation and maintenance of mitigation measures Cultural Heritage - Compliance check on design, implementation and maintenance of mitigation measures
3.4.11.3	The Applicant shall prepare a Project Implementation Schedule (in the form of a checklist as shown in Appendix L of this EIA Study Brief) containing the EIA study recommendations and mitigation measures with reference to the implementation programme of the Project.	The Environmental Mitigation Implementation Schedule (EMIS) is provided in Appendix 4.1 in the EM&A manual.
3.5 3.5.1	<b>Presentation of Summary Information</b> <u>Summary of Environmental Outcome</u> The EIA report shall contain a summary of key environmental outcomes arising from the EIA study, including estimated population protected from various environmental impacts, environmentally sensitive areas protected, environmentally friendly options considered and incorporated in the preferred option, environmental designs recommended, key environmental problems avoided, compensation areas included and the environmental benefits of environmental protection measures recommended.	The summary of key environmental outcomes arising from the EIA study is described in Sections 14.1 - 14.9 of the report.
3.5.2	<u>Summary of Environmental Impacts</u> To facilitate retrieval of pertinent key information, the EIA report shall contain a summary table of environmental impacts showing the assessment points, results of impact predictions, relevant standards or criteria, extents of exceedance predicted, impact avoidance measures considered, mitigation measures proposed and residual impacts (after mitigation). This summary shall cover each individual impact and shall also form an essential part of the executive summary of the EIA report.	The summary of environmental impacts is provided in Appendix 15.2 of the report.
3.5.3	<u>Documentation of Key Assessment Assumptions and Limitations of Assessment Methodologies</u> To facilitate retrieval, the EIA report shall contain a summary including the assessment methodologies and key assessment assumptions adopted in the EIA study, the limitations of these assessment methodologies/assumptions. The proposed use of any alternative assessment tool(s) or assumption(s) have to be justified by the Applicant, with supporting documents based on cogent, scientific and objectively derived reason(s). The supporting documents shall be provided in the EIA report.	The summary of assessment methodologies and key assessment assumptions adopted in the EIA study as well as limitations of these assessment methodologies and assumptions is provided in Appendix 15.1 of the report.
4	<b>DURATION OF VALIDITY</b>	
4.1	The Applicant shall notify the Director of the commencement of the EIA study. If the EIA study does not commence within 36 months after the date of issue of this EIA Study Brief, the Applicant shall apply to the Director for a fresh EIA study brief before commencement of the EIA study.	Noted.
5	<b>REPORTING REQUIREMENTS</b>	
5.1	In preparing the EIA report, the Applicant shall refer to Annex 11 of the TM for the contents of an EIA report. The Applicant shall also refer to Annex 20 of the TM, which stipulates the guidelines for the review of an EIA report. The Applicant shall accompany with the submission of the EIA report provide a summary, pointing out where in the EIA report the respective requirements of this EIA Study and TM (in particular Annexes 11 and 20) have been addressed and fulfilled.	The checklist for Annex 11 and Annex 20 of TM-EIAO is provided in Appendix 1.1.
5.2	The Applicant shall supply the Director with hard and electronic copies of the EIA report and the executive summary in accordance with the requirements given in Appendix M of this EIA Study Brief. The Applicant shall, upon request, make additional copies of the above documents available to the public, subject to payment by the interested parties of full costs of printing.	See compliance check for Appendix M items below.
6	<b>OTHER PROCEDURAL REQUIREMENTS</b>	
6.1	If there is any change in the name of Applicant for this EIA Study Brief during the course of the EIA study, the Applicant must notify the Director immediately.	Noted.
6.2	If there is any key change in the scope of the Project mentioned in section 1.1 of this EIA Study Brief and in the Project Profile (No. PP-523/2015), the Applicant must seek confirmation from the Director in writing on whether or not the scope of issues covered by this EIA Study Brief can still cover the key changes, and the additional issues, if any, that the EIA study must also address. If the changes to the Project fundamentally alter the key scope of this EIA Study Brief, the Applicant shall apply to the Director for a fresh EIA study brief.	Noted.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
<b>Requirements for Air Quality Impact Assessment</b>		
The air quality impact assessment shall include the following:		
Appendix B1	<p><u>Background and Analysis of Activities</u></p> <p>(i) Provision of background information relating to air quality issues relevant to the Project, e.g. description of the types of activities of the Project that may affect air quality during both construction and operational stages.</p> <p>(ii) Provision of an account, where appropriate, of the consideration measures that have been taken into consideration in the planning of the Project to abate the air pollution impact. The Applicant shall consider alternative construction methods, phasing programmes and alternative modes of operation to minimise the air quality impact during construction and operational stages of the Project.</p> <p>(iii) Presentation of existing and predicted future air quality levels in the assessment area for the purpose of evaluating cumulative air quality impacts during construction and operational stages of the Project and quantifying any change in air quality levels as compared with the existing baseline conditions. The Applicant may establish the existing air quality conditions based on properly collected ambient air quality monitoring data, and in case necessary, augmented with air quality modelling tools. The PATH model may be used to estimate the future background air quality. Details for the estimation of all emission sources to be adopted in the model runs should be clearly presented.</p>	<p>Presented in Sections 3.3, 3.4.2 and 3.5.2 of the report.</p> <p>The key activities that would potentially result in dust emissions during construction phase of the project have been identified as follows:</p> <ul style="list-style-type: none"><li>- Reclamation;</li><li>- Site clearance;</li><li>- Soil excavation;</li><li>- Backfilling;</li><li>- Site formation; and</li><li>- Wind erosion of open sites.</li></ul> <p>The key sources that would potentially result in air pollution during operation phase of the project have been identified as follows:</p> <ul style="list-style-type: none"><li>- Vehicular emission from open road;</li><li>- Vehicular emission from tunnel portal and ventilation building;</li><li>- Vehicular emission from idling vehicles at HKBCF;</li><li>- Airport emission;</li><li>- Industrial emission;</li><li>- Marine emission from the proposed marina;</li><li>- Marine emission from existing local vessels;</li><li>- Odour emission from proposed sewage pumping stations; and</li><li>- Concurrent projects.</li></ul> <p>Presented in Section 3.4.6 of the report.</p> <p>Some measures aimed at reducing the dust emission from the Project include:</p> <ul style="list-style-type: none"><li>- Regular watering under a good site practice in accordance with the "Control of Open Fugitive Dust Sources" (USEPA AP-42);</li><li>- Follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation;</li><li>- Follow dust suppression measures such as covering excavated or stockpile of dusty material entirely by impervious sheeting, wetting dusty materials remaining after a stockpile is removed with water and clear them from the road surfaces, and keeping stockpile of dusty material away from pedestrian barriers, fencing or traffic cones.</li></ul> <p>Alternative construction methods, phasing programmes and alternative modes of operation to minimize the air quality impact during construction and operational stages of the Project have been considered and discussed in Sections 2.5 and 2.7 of the report.</p> <p>Existing air quaity levels at Air Sensitive Receivers (ASRs) have been discussed in Section 3.3.2 of the report. Prediction and evaluation of future air quality levels as well as changes as comparing to the existing air quality levels in the assessment area have been discussed in Section 3.4.8 and 3.5.6 of the report.</p> <p>Existing air quality levels are established based on the set of meteorological data for Year 2010 extracted from EPD's PATH model. The PATH model is also used to establish future air quality for both construction and operation phase assessments.</p>
Appendix B2	<p><u>Identification of Air Sensitive Receivers (ASRs) and Examination of Emission! Dispersion Characteristics</u></p> <p>(i) Identification and description of existing, committed and planned ASRs that would likely be affected by the Project, including those earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board. The Applicant shall select the assessment points of the identified ASRs that represent the worst impact point of these ASRs. A map clearly showing the location and description such as name of buildings, their uses and height of the selected assessment points shall be given. The separation distances of these ASRs from the nearest emission sources shall also be given. For phased development, the Applicant shall review the development programme and, where appropriate, to include occupiers of earlier phases as ASRs of construction phase impact if they may be affected by works of later phases.</p>	<p>Representative ASRs within the Project Site and a distance of 500m from the boundary of the Potential Development Areas (PDAs) and the works of the Project within the Study Area have been identified and described in Section 3.2.2 of the report. These ASRs include both the existing and planned developments. Existing ASRs are identified by means of reviewing topographic maps, aerial photos, land status plans, supplemented by site inspections. They include scattered village houses generally in 1 to 3-storeys high, as well as residential/commercial developments in Tung Chung/North Lantau.</p> <p>Planned/committed ASRs are identified and described in Section 3.2.3 of the report by making reference to relevant Outline Zoning Plans (OZP), Layout Plans and other published plans in relation to the development on North Lantau, including:</p> <ul style="list-style-type: none"><li>• Tung Chung Town Centre Area OZP (No. S/I-TCTC/19);</li><li>• Tung Chung Town Centre Area Layout Plan - Lantau Island (No. L/I-TCTC/1G);</li><li>• North Lantau New Town Phase IIB Area (Part) Layout Plan (No. L/I-TCIIB/1D).</li></ul> <p>The locations of representative ASRs for air quality impact assessment are summarized in Table 3.2 in Section 3.2.4 of the report and their locations are shown in Figure 3.1 of the report.</p> <p>Name of buildings, their uses, height of the selected assessment points and separation distances are provided.</p> <p>The development programme of key concurrent projects in the vicinity of the Project have been identified and summarized in Table 3.6 in Section 3.4.2.7 of the report.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	<p>(ii) Provision of a list of air pollutant emission sources, including any nearby emission sources which are likely to have impact related to the Project based on the analysis of the construction and operation activities in section 1 above. Examples of construction stage emission sources include stock piling, blasting, concrete batching, material handling and vehicular movements on unpaved haul roads on site, etc. Examples of operational stage emission sources include exhaust emissions from vehicles; emissions from marine vessels; emissions from aircraft; emissions of gaseous pollutants such as volatile organic compounds (VOC) from the production processes and facilities if recycling facilities are proposed under the Project; odour emissions from sewage treatment/disposal facilities, ventilation buildings and production processes and facilities, etc. Confirmation regarding the validity of assumptions and the magnitude of activities (e.g. volume of construction material to be handled, odour emission strength, etc.) shall be obtained from the relevant government departments/authorities and documented in the EIA report.</p> <p>(iii) Identification of chimneys and obtainment of relevant chimney emission data in the assessment area by carrying out a survey for assessing the cumulative air quality impact of air pollutants through chimneys. The Applicant shall ensure and confirm the validity of the emission data used in their assessment. Any errors found in their emission data used may render the submission invalidated.</p> <p>(iv) The emissions from any concurrent projects identified as relevant during the course of the EIA study shall be taken into account as contributing towards the overall cumulative air quality impact. The impacts at the existing, committed and planned ASRs within the assessment area shall be assessed, based on the best information available at the time of assessment.</p>	<p>Presented in Sections 3.4.2 and 3.5.2 of the report.</p> <p>The key activities that would potentially result in dust emissions during construction phase of the project have been identified as follows:</p> <ul style="list-style-type: none"><li>- Reclamation;</li><li>- Site clearance;</li><li>- Soil excavation;</li><li>- Backfilling;</li><li>- Site formation; and</li><li>- Wind erosion of open sites.</li></ul> <p>The key sources that would potentially result in air pollution during operation phase of the project have been identified as follows:</p> <ul style="list-style-type: none"><li>- Vehicular emission from open road;</li><li>- Vehicular emission from tunnel portal and ventilation building;</li><li>- Vehicular emission from idling vehicles at HKBCF;</li><li>- Airport emission;</li><li>- Industrial emission;</li><li>- Marine emission from the proposed marina;</li><li>- Marine emission from existing local vessels;</li><li>- Odour emission from proposed sewage pumping stations; and</li><li>- Concurrent projects.</li></ul> <p>Presented in Section 3.5.2.10 and 3.5.2.11 of the report.</p> <p>Chimney at the North Lantau Hospital is identified. However, as advised by the operator, there is no industrial emission from this chimney.</p> <p>Chimney associated with the concurrent project - OWTF Phase 1 is included in the assessment. Dust emission associated with the construction and operation of concurrent projects are described in Sections 3.4.2.7, 3.4.2.12 and 3.5.2.20 of the report respectively.</p> <p>Concurrent projects/ sources in the vicinity of the Project which would likely cause cumulative air quality impact during the operational phase are listed below:</p> <ul style="list-style-type: none"><li>- Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities;</li><li>- Hong Kong – Zhuhai – Macao Bridge Hong Kong Link Road;</li><li>- Tuen Mun – Chek Lap Kok Link;</li><li>- Possible Lantau Logistic Park;</li><li>- Three-runway System of Hong Kong International Airport;</li><li>- Organic Waste Treatment Facilities, Phase 1;</li><li>- Planned Developments on Airport Island;</li><li>- Cross Boundary Hub in Siu Ho Wan; and</li><li>- Proposed Leisure and Entertainment Node at Sunny Bay.</li></ul>
Appendix B3	<p><u>Construction Phase Air Quality Impact</u></p> <p>(i) The Applicant shall follow the requirements stipulated under the Air Pollution Control (Construction Dust) Regulation to ensure that construction dust impacts are controlled within the relevant standards as stipulated in section 1 of Annex 4 of the TM.</p> <p>(ii) If the Applicant anticipates that the Project will give rise to significant construction dust impacts likely to exceed recommended limits in the TM at the ASRs despite the incorporation of the dust control measures proposed, a quantitative assessment shall be carried out to evaluate the construction dust impact at the identified ASRs. The Applicant shall follow the methodology set out in section 5 below when carrying out the quantitative assessment.</p> <p>(iii) A monitoring and audit programme for the construction phase of the Project shall be devised to verify the effectiveness of the proposed control measures so as to ensure proper control of fugitive dust emission.</p> <p>(i) The Applicant shall assess the expected air pollutant concentrations at the identified ASRs based on an assumed reasonably worst-case scenario under normal operating conditions of the Project. The evaluation shall be based on the strength of the emission sources identified in section 2 above. The Applicant shall follow the methodology set out in section 5 below when carrying out the assessment.</p> <p>(ii) A monitoring and audit programme for the operational phase of the Project shall be devised to verify the effectiveness of the proposed control measures so as to ensure proper control of operational air quality impacts.</p>	<p>As mentioned in Section 3.1.2 of the report, the air quality assessment carried out for the Project is based on the Air Quality Objectives (AQOs) and other standards established under the Air Pollution Control Ordinance (APCO).</p> <p>As mentioned in Section 3.1.4 of the report, the total suspended particulate (TSP) criterion for the air quality assessment carried out for the Project follow the limit as stipulated in Annex 4 of TM-EIAO.</p> <p>Quantitative assessment has been carried out to evaluate the construction dust impact at the identified ASRs. The assessment methodology is described in Section 3.4.4 of the report.</p> <p>See compliance check for Appendix B5 items below.</p> <p>Regular dust monitoring is considered necessary during the construction phase of the Project and regular site audits are also required to ensure the dust control measures are properly implemented. Details of the environmental monitoring and audit (EM&amp;A) programme are presented in the stand-alone EM&amp;A Manual.</p> <p>The expected air pollutant concentrations at the identified ASRs under normal conditions of the Project are assessed based on worst-case assumption as mentioned in Section 3.5.4.15 of the report.</p> <p>See compliance check for Appendix B2 items above and Appendix B5 items below.</p> <p>As mentioned in Section 3.5.7 of the report, no adverse residual air quality impact is anticipated during the operational phase of the Project and therefore, no mitigation measures are required.</p>
Appendix B5	<p><u>Quantitative Assessment Methodology</u></p> <p>(i) The Applicant shall apply the general principles enunciated in the modelling guidelines in Appendices B-1 while making allowance for the specific characteristic of the Project.</p>	<p>See compliance check for Appendix B-1 2.1 items below.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	<p>(ii) For the purpose of assessing the compliance with the criteria as stated in Annex 4 of the TM, the Applicant shall identify the key/representative air pollution parameters (types of pollutants and the averaging time concentrations) to be evaluated and provide explanation for selecting these parameters for assessing the impact of the Project.</p> <p>(iii) Calculation of the relevant pollutant emission rates for input to the model and a map showing the emission sources shall be presented in the EIA report. A summary table of the emission rates shall be presented in the EIA report. The Applicant shall ensure consistency between the text description and the model files at every stage of submission for review.</p> <p>(iv) The air pollution impacts of future road traffic shall be calculated based on the highest emission strength from the road within the next 15 years upon commencement of operation of the proposed road. The Applicant shall demonstrate that the selected year of assessment represents the highest emission scenario given the combination of vehicular emission factors and traffic flow for the selected year. The Applicant shall propose any Fleet Average Emission Factors used in the assessment. If necessary, the Fleet Average Emission Factors shall be determined by a motor vehicle emission model such as EMFAC-HK model and documented in the EIA report. The traffic flow data and assumptions, such as the exhaust technology fractions, vehicle age/population distribution, traffic forecast and speed fractions, that are used in the assessment shall be presented in the form of both summary table(s) and graph(s).</p> <p>(v) For estimating the future background air quality, the Applicant may use EPD's PATH model or results, taking into consideration the major air pollutant emission sources projected for Hong Kong and nearby regions, or other models as agreed by the Director. Details of the adopted emission sources should be presented.</p> <p>(vi) Ozone Limiting Method (OLM) or Discrete Parcel Method (DPM) or other appropriate method shall be used to estimate the conversion ratio of NO<sub>x</sub> to NO<sub>2</sub> if NO<sub>2</sub> has been identified as a key/representative air pollutant.</p> <p>(vii) The Applicant shall calculate the cumulative air quality impact at the identified ASRs and compare these results against the criteria set out in section 1 of Annex 4 in the TM. The predicted air quality impacts (both unmitigated and mitigated) shall be presented in the form of summary table(s) and pollution contours, to be evaluated against the relevant air quality standards and on any effect they may have on the land use implications. Plans of a suitable scale shall be used to present pollution contours to allow buffer distance requirements to be determined properly.</p> <p>(viii) If vehicle tunnels and/or full enclosures are proposed in the Project, it is the responsibility of the Applicant to ensure that the air quality inside these proposed structures shall comply with EPD's "Practice Note on Control of Air Pollution in Vehicle Tunnels". When assessing air quality impact due to emissions from tunnels/full enclosures, the Applicant shall ensure prior agreement with the relevant ventilation design engineer over the amount and the types/kinds of pollutants emitted from these full enclosures; and such assumptions shall be clearly and properly documented in the EIA report.</p>	<p>Key/ representative air pollution parameters have be identified and justified in Sections 3.4.3 and 3.5.3 of the report.</p> <p>Dust emission source locations are provided in Appendix 3.2 of the report. Table of construction dust emission rate is given in Appendix 3.3.</p> <p>Summary tables of hourly composite vehicular emission factor for construction dust assessment and operational air quality impact assessment are provided in Appendices 3.4 and 3.11 of the report respectively.</p> <p>Summary tables of hourly composite idling vehicle emission factor, tunnel portal / VB emission factor, OWTF for construction dust assessment and operational air quality impact assessment are provided in Appendices 3.5, 3.12, 3.13 and 3.14 of the report.</p> <p>As mentioned in Sections 3.5.4.6 and 3.5.4.8 of the report, the air pollution impacts of future road traffic have been calculated based on the highest strength from the road within the next 15 years upon commencement of operation of the proposed road. Based on the current tentative implementation programme as presented in Section 2.9 of the report, population intake will be in phases in Years 2023, 2024, 2025, 2027, 2029 and 2030. As advised by the Engineer, proposed road commencement would be in the same commencement year of each phase. Therefore, EmFAC-HK models have been carried out for Year 2023 (first commissioning), 2024, 2025, 2027, 2029, 2030 and 2038 (15 years after first commissioning) to determine the highest emission scenario and the worst assessment year.</p> <p>The traffic forecast data is given Appendix 3.9 of the report.</p> <p>The methodology, key model assumptions and results (including emission factors) are presented in Appendix 3.10 of the report.</p> <p>As mentioned in Table 3.10 of the report, EPD's PATH model has been used to predict the future background air quality in Hong Kong for construction dust assessment.</p> <p>As mentioned in Sections 3.5.4.31 to 3.5.4.37, PATH model has been re-run based on the emission inventories given in Table 3.28, and the hourly concentrations are adopted as the background air quality for operational air quality assessment.</p> <p>As mentioned in Section 3.5.4.16 of the report, the Ozone Limiting Method (OLM) has been adopted for conversion of NO<sub>x</sub> to NO<sub>2</sub>, using the predicted O<sub>3</sub> and NO<sub>2</sub> levels from PATH model.</p> <p>As mentioned in Section 3.1.2 of the report, the air quality assessment carried out for the Project is based on the Air Quality Objectives (AQOs) and other standards established under the Air Pollution Control Ordinance (APCO).</p> <p>As mentioned in Section 3.1.4 of the report, the total suspended particulate (TSP) criterion for the air quality assessment carried out for the Project follow the limit as stipulated in Annex 4 of TM-EIAO.</p> <p>The unmitigated and mitigated cumulative TSP, RSP and FSP concentrations during the construction phase of the Project are summarized in Tables 3.12 - 3.16 of the report.</p> <p>The cumulative NO<sub>2</sub>, RSP and FSP concentrations during the operational phase of the Project are summarized in Tables 3.30 - 3.34 of the report.</p> <p>Pollution contours of cumulative pollutant concentrations are provided in Figures 3.4 - 3.12, and 3.17 - 3.22 of the report.</p> <p>Noted.</p> <p>As mentioned in Section 3.4.4.16 of the report, emission from tunnel portal and ventilation buildings associated with HKLR, TMCLKL and HKBCF are included in the cumulative construction dust assessment. Appendix 3.5 of the report presents the detailed calculations and assumptions of idling emissions and tunnel portal/ ventilation building.</p> <p>As mentioned in Section 3.5.4.18 - 3.5.4.23 of the report, vehicular emission from tunnel portal and ventilation building associated with HZMB, HKLR, HAT and TMCLKL are included in the cumulative operational air quality assessment. Appendix 3.12 of the report presents the detailed calculations and assumptions of emission from tunnel portal and ventilation building.</p>



Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	<p>(ix) If there are any direct technical noise remedies recommended in the study, the air quality implication due to these technical remedies shall be assessed. For instance, if barriers that may affect dispersion of air pollutants are proposed, then the implications of such remedies on air quality impact shall be assessed. If noise enclosure is proposed, then portal emissions of the enclosed road section and air quality inside the enclosed road section shall also be addressed. The Applicant shall highlight clearly the locations and types of agreed noise mitigating measures (where applicable), be they noise barriers, road enclosures and their portals, and affected ASR's, on contour maps for reference.</p>	<p>Noted.</p> <p>As mentioned in Section 3.4.4.16 of the report, dust emission from tunnel portal and ventilation buildings associated with HKLR, TMCLKL and HKBCF are included in the cumulative construction dust assessment. Appendix 3.5 of the report presents the detailed calculations and assumptions of idling emissions and tunnel portal/ ventilation building.</p> <p>As mentioned in Section 3.5.4.18 - 3.5.4.23 of the report, vehicular emission from tunnel portal and ventilation building associated with HZMB, HKLR, HAT and TMCLKL are included in the cumulative operational air quality assessment. Appendix 3.12 of the report presents the detailed calculations and assumptions of emission from tunnel portal and ventilation building.</p> <p>The effect of portal emission has been considered for tunnels.</p> <p>As mentioned in Section 3.5.4.15 of the report, for barriers along roads or any proposed noise barriers as a noise mitigation measure, the line source is modelled at the tip of the barrier and the mixing width is limited to the actual uncovered road width in order to address the associated secondary environmental impact.</p>
Appendix B6	<p><u>Mitigation Measures for Air Quality Impact</u> Consideration for Mitigation Measures</p> <p>(i) When the predicted air quality impact exceeds the criteria set in section 1 of Annex 4 in the TM, the Applicant shall consider mitigation measures to reduce the air quality impact on the identified ASRs. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed and documented in the EIA report. Specific reasons for not adopting certain workable mitigation measures to reduce the air quality to a level meeting the criteria in the TM or to maximise the protection of the ASRs as far as possible should be clearly substantiated and documented in the EIA report.</p> <p>Evaluation of Residual Air Quality Impact</p> <p>(ii) Upon consideration of mitigation measures, if the mitigated air quality impact still exceeds the relevant criteria in Annex 4 of the TM, the Applicant shall identify, predict, evaluate the residual air quality impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other air sensitive elements that will be exposed to residual air quality impacts exceeding the criteria set in Annex 4 in the TM.</p>	<p>As mentioned in Section 3.4.6 of the report, mitigation measures aimed at reducing the dust emission from the Project include:</p> <p>- Regular watering under a good site practice in accordance with the "Control of Open Fugitive Dust Sources" (USEPA AP-42);</p> <p>- Follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation;</p> <p>- Follow dust suppression measures such as covering excavated or stockpile of dusty material entirely by impervious sheeting, wetting dusty materials remaining after a stockpile is removed with water and clear them from the road surfaces, and keeping stockpile of dusty material away from pedestrian barriers, fencing or traffic cones.</p> <p>The effectiveness of the recommended mitigation measures have been assessed and discussed in Sections 3.4.7 - 3.4.9 of the report. It is concluded in Section 3.4.9 of the report that no adverse residual air quality impact is anticipated during the construction phase with the implementation of the mitigation measures as stipulated in the Air Pollution Control (Construction Dust) Regulation, dust control measures, including watering once per hour on exposed worksites and haul road, and good site practices.</p> <p>As mentioned in Section 3.5.7 of the report, no adverse residual air quality impact is anticipated during the operational phase of the Project and therefore, no mitigation measures are required.</p> <p>As mentioned in Section 3.4.9 of the report, no adverse residual air quality impact is anticipated during the construction phase with the implementation of the mitigation measures as stipulated in the Air Pollution Control (Construction Dust) Regulation, dust control measures, including watering once per hour on exposed worksites and haul road, and good site practices.</p> <p>As mentioned in Section 3.5.7 of the report, no adverse residual air quality impact is anticipated during the operational phase of the Project and therefore, no mitigation measures are required.</p>
Appendix B7	<p><u>Submission of Model Files</u> Input and output file(s) of model runes) including those files for generating the pollution contours and emission calculations work sheets shall be submitted to the Director in electronic format together with the submission of the EIA report.</p>	Appendices provide assumptions and data inputs, summary results tables included. Model files are supplied to EPD.
Appendix B-1 2.1	<p>The air quality modelling guidelines shall include the following guidelines as published on the website of the Environmental Protection Department: (<a href="http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model.html">http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model.html</a>):</p> <p>i) Guidelines on Choice of Models and Model Parameters</p> <p>ii) Guidelines on Assessing the ‘Total’ Air Quality Impact (Revised)</p> <p>iii) Guidelines on the Use of Alternative Computer Models in Air Quality Assessment (Revised)</p> <p>iv) Guidelines on the Estimation of PM<sub>2.5</sub> for Air Quality Assessment in Hong Kong; and</p> <p>v) Guidelines on the Estimation of 10-minute Average SO<sub>2</sub> Concentration for Air Quality Assessment in Hong Kong</p>	<p>Noted.</p> <p>This guidelines have been referenced in the air quality assessment as mentioned in Sections 3.4.4.7, 3.5.4.16, 3.5.4.23 and 3.5.4.30 of the report.</p> <p>This guidelines have been referenced in the air quality assessment as mentioned in Sections 3.4.4.6 of the report.</p> <p>As mentioned in Section 3.5.4, AERMOD has been adopted for modelling the vehicular emission from tunnel portal/ventilation building, OWTF and airport emission.</p> <p>This guidelines have been referenced in the air quality assessment as mentioned in Sections 3.3.3.3, 3.4.4.19 and 3.5.4.38 of the report.</p> <p>This guidelines have been referenced Table 3.5</p>
<p><b><u>Requirements for Noise Assessment</u></b> The noise impact assessment shall include the following:</p>		
<b>Appendix C 1</b>	<b><u>Description of the Noise Environment</u></b>	
Appendix C 1.1	The Applicant shall describe the prevailing noise environment in the EIA report.	The prevailing noise environment has been discussed in Section 4.2. Section 4.2 includes discussion of road traffic from existing North Lantau Highway (NLH), Airport Express Line (AEL), Tung Chung Line (TCL), public pier, Ngong Ping Skyrail Tung Chung Terminal, North Lantau Hospital, Tung Chung Town Electric Substation, helicopter operations to / from Hong Kong International Airport (HKIA), existing activities within HKIA with two runway system, Tung Chung Fire Station and sewage pumping station.
Appendix C 1.2	The Applicant shall conduct prevailing background noise surveys to determine the standards for evaluating noise impact from fixed noise source and marine traffic noise sources. The respective noise environment should be documented in the EIA report.	Prevailing background noise measurements were conducted in February, March 2012 and February 2014. The survey results were included in Section 4.2.3.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 2	Construction Noise Impact Assessment	
Appendix C 2.1	Construction Noise Impact Assessment Methodology	
Appendix C 2.1.1	The Applicant shall carry out construction noise impact assessment (excluding percussive piling) of the Project during daytime, i.e. 7am to 7pm, on weekdays other than general holidays in accordance with methodology in paragraphs 5.3 and 5.4 of Annex 13 of the TM.	Construction noise methodology has been discussed in Section 4.3.1.
Appendix C 2.1.2	For ground-borne construction noise impact, the Applicant shall propose assessment methodology and computational model which shall be confirmed with the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment. Site measurements at appropriate locations may be required in order to obtain the empirical input parameters required in the computational model.	Construction noise methodology has been discussed in Section 4.4.1. A separate working paper on noise assessment methodology has been approved by EPD prior to the commencement of the assessment.
Appendix C 2.2	Identification of Construction Noise Impact	
Appendix C 2.2.1	Identification of Assessment Area and Noise Sensitive Receivers	
Appendix C 2.2.1(a)	The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the construction noise impact assessment shall generally include areas within 300 metres from the boundary of the Project and the works of the Project.	The assessment area and selected assessment points for construction noise assessment have been discussed in Sections 4.3.2 and 4.4.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 2.2.1(b)	The Applicant shall identify all existing NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out quantitative construction noise impact assessment described below.	The first layer of representative NSRs has been selected for assessment in Sections 4.3.2 and 4.4.2. Their locations are shown in Figures 4.5 to 4.6 and photos of NSRs are shown in Appendix 4.1.
Appendix C 2.2.1(c)	The assessment points shall be confirmed with the Director prior to the commencement of the quantitative construction noise impact assessment and may be varied subject to the best and latest information available during the course of the EIA study.	A separate working paper on the assessment points has been approved by Director prior to the commencement of the quantitative construction noise impact assessment.
Appendix C 2.2.1(d)	A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.	The representative NSRs are shown in Figures 4.5 to 4.6 and photos are shown in Appendix 4.1.
Appendix C 2.2.2	Inventory of Noise Sources	
	The Applicant shall identify and quantify an inventory of noise sources for representative construction equipment for the purpose of construction noise impact assessment.	The inventory of noise sources for representative construction equipment has been given in Appendix 4.3 and Section 4.4.2.
Appendix C 2.3	Prediction and Evaluation of Construction Noise Impact	
Appendix C 2.3.1	Phases of Construction The Applicant shall identify representative phases of construction that would have noticeable varying construction noise emissions at existing NSRs at the assessment area for agreement of the Director before commencing the construction noise impact assessment.	A separate working paper on the phases of construction has been approved by Director prior to the commencement of the quantitative construction noise impact assessment.
Appendix C 2.3.2	Scenarios The Applicant shall quantitatively assess the construction noise impact, with respect to criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at different phases of construction of the Project.	The unmitigated and mitigated construction airborne noise impacts have been discussed in Sections 4.3.3 and 4.3.4 respectively. Section 4.4.3 presents the unmitigated construction groundborne noise impacts. As the unmitigated construction groundborne noise impacts are within respective noise criterion, mitigated scenario is not required.
Appendix C 2.3.3(a)	Prediction of Noise Impact The Applicant shall present the predicted noise levels in Leq (30 min) dB(A) at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.	The predicted noise levels at various representative floor levels are presented in Appendix 4.6a, 4.9a and 4.10a.
Appendix C 2.3.3(b)	The assessment shall cover the cumulative construction noise impact resulting from the construction works of the Project and other concurrent projects identified during the course of the EIA study on existing NSRs within the assessment area.	Cumulative construction noise impacts from the construction of the Project and other concurrent projects identified such as construction of Tung Chung East / West Railway Stations, marina, sports ground, additional sewage rising mains and rehabilitation of the existing sewage rising main between Tung Chung and Siu Ho Wan; realignment of existing Tung Chung Line, and planned developments such as residential developments at Tung Chung Area 27, Area 39, Area 54, Area 55, Area 56 and hotel development at Tung Chung Area 53a, are included in the assessment.
Appendix C 2.3.3(c)	The potential construction noise impact under different phases of construction shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms have been quantified in Sections 4.3.3, 4.3.4 and 4.4.3.
Appendix C 2.3.3(d)	The Applicant shall, as far as practicable, formulate a reasonable construction programme so that no work will be required in restricted hours as defined under the Noise Control Ordinance (NCO). In case the Applicant needs to evaluate whether construction works in restricted hours as defined under the NCO are feasible or not in the context of programming construction works, reference should be made to relevant technical memoranda issued under the NCO. Regardless of the results of construction noise impact assessment for restricted hours, the Noise Control Authority will process Construction Noise Permit (CNP) application, if necessary, based on the NCO, the relevant technical memoranda issued under the NCO, and the contemporary conditions/situations. This aspect should be explicitly stated in the noise chapter and the conclusions and recommendations chapter in EIA report.	The construction programme is given in Appendix 2.7 and no work will be required in restricted hours as defined under the Noise Control Ordinance (NCO).
Appendix C 2.4	Mitigation of Construction Noise Impact Direct Mitigation Measures Where the predicted construction noise impact exceeds the criteria set in Table 1B of Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to, movable barriers, enclosures, quieter alternative methods, re-scheduling, restricting hours of operation of noisy tasks, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.	Section 4.3.4 discussed the direct mitigation measures such as good site management practices, use of quality powered mechanical equipment, use of movable noise barrier and full enclosure to reduce the construction noise impacts at NSRs.
Appendix C 2.5	Evaluation of Residual Construction Noise Impact Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict, evaluate the residual construction noise impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms have been quantified in Sections 4.3.5 and 4.4.5.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 3	Road Traffic Noise Impact Assessment	
Appendix C 3.1	Road Traffic Noise Impact Assessment Methodology	
Appendix C 3.1.1	The Applicant shall carry out road traffic noise impact assessment in respect of each road section (within the meaning of Items A.1, A.7 and A.8 under Part I, Schedule 2 of the EIAO and other road sections) and the noise levels from combined road sections of the Project at the NSRs in accordance with methodology in paragraphs 5.1 of Annex 13 of the TM.	Road traffic noise assessment methodology has been discussed in Section 4.5.1.
Appendix C 3.1.2	<i>Input Data of Computational Model</i> The Applicant shall provide the input data set of the road traffic noise computational model adopted in the assessment for various scenarios. The data shall be in electronic text file (ASCII format) containing road segments, barriers and noise sensitive receivers information. CD-ROM(s) containing the above data shall be submitted together with the EIA report.	Input model files have been submitted to EPD. It includes prevailing scenario (Without Project) at Year 2017, unmitigated and mitigated scenarios (With Project) at Year 2023, 2025, 2027 and 2045.
Appendix C 3.2	Identification of Road Traffic Noise Impact	
Appendix C 3.2.1	Identification of Assessment Area and Noise Sensitive Receivers	
Appendix C 3.2.1(a)	The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the road traffic noise impact shall generally include areas within 300 metres from the boundary of the Project and the works of the Project.	The assessment area for road traffic noise assessment has been discussed in Section 4.5.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 3.2.1(b)	The Applicant shall identify all existing, committed and planned NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out quantitative road traffic noise impact assessment described below.	The first layer of representative NSRs has been selected for assessment in Section 4.5.2. Their locations are shown in Figure 4.7 and photos of NSRs are shown in Appendix 4.1.
Appendix C 3.2.1(c)	The assessment points shall be confirmed with the Director prior to the commencement of the quantitative road traffic noise impact assessment and may be varied subject to the best and latest information available during the course of the EIA study.	A separate working paper on the assessment points has been approved by Director prior to the commencement of the quantitative road traffic noise impact assessment.
Appendix C 3.2.1(d)	A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.	The representative NSRs are shown in Table 4.22 and Figure 4.7. Photos of the representative NSRs are shown in Appendix 4.1.
Appendix C 3.2.1(e)	For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for road traffic noise impact assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.	The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.
Appendix C 3.2.2(a)	<i>Inventory of Noise Sources</i> The Applicant shall analyse the scope of the proposed road alignment(s) to identify road sections for the purpose of road traffic noise impact assessment. Road sections to be included in road traffic noise impact assessment shall be confirmed with the Director prior to the commencement of the assessment.	Inventory of noise sources has been discussed in Section 4.5.2 and the scope of road alignment for the purpose of road traffic noise assessment has been given in Appendix 4.11. A separate working paper on the proposed road alignment has been approved by Director prior to the commencement of the quantitative road traffic noise impact assessment.
Appendix C 3.2.2(b)	Validity of the traffic flow prediction of road sections for the purpose of road traffic noise impact assessment shall be confirmed with Transport Department and documented in the EIA report.	Validity of traffic flow prediction has been confirmed with Transport Department (TD).
Appendix C 3.3	Prediction and Evaluation of Road Traffic Noise Impact	
Appendix C 3.3.1	Scenarios	
Appendix C 3.3.1(a)	The Applicant shall quantitatively assess the road traffic noise impact of the Project, with respect to the criteria set in Annex 5, TM, of unmitigated scenario and mitigated scenario at assessment year. The assessment year shall be made reference to Section 5.1 in Annex 13 of the TM.	The unmitigated and mitigated road traffic noise impact of the Project have been presented in Sections 4.5.3 and 4.5.4. Since the first population intake and ultimate occupation year of the Project will be in Year 2023 and 2030 respectively, and operation of the proposed road network will commence in Year 2030, the assessment year for road traffic noise has been taken as Year 2045 (which is the maximum traffic projection within 15 years after full operation of the proposed development). Phasings of population intake of Year 2023, 2025, 2027 and 2030 (2045 for the maximum traffic projection within 15 year has been chosen for assessment) have also been assessed.
Appendix C 3.3.1(b)	The Applicant shall provide the input data sets of traffic noise model prediction model adopted in the EIA study as requested by the Director for the following scenarios:  (i) unmitigated scenario at assessment year; (ii) mitigated scenario at assessment year; and (iii) prevailing scenario for indirect mitigated measures eligibility assessment.	The input data sets of traffic noise model have been provided to EPD. The traffic flow is given in Appendix 4.12.
Appendix C 3.3.2(a)	<i>Prediction of Noise Impact</i>  The Applicant shall present the predicted noise levels in L10 (1 hour) dB(A) at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.	Appendices 4.13 and 4.14 have presented the road traffic noise levels for Phase 1 to 4 population intake at the selected assessment points.
Appendix C 3.3.2(b)	The assessment shall cover the cumulative road traffic noise impact resulting from the road traffic noise due to the Project and existing road network on existing, committed and planned NSRs within the assessment area.	The concurrent project for road traffic noise assessment has been discussed in Table 1.3 and Section 1.8.
Appendix C 3.3.2(c)	The potential road traffic noise impact under different scenarios shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms exposed to noise impact have been discussed in Sections 4.5.3.
Appendix C 3.4	Mitigation of Road Traffic Noise Impact	
Appendix C 3.4.1	Direct Mitigation Measures	
Appendix C 3.4.1(a)	Where the predicted road traffic noise impact exceeds the criteria set in Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure, screening by noise tolerant buildings etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly quantified and documented in the EIA report.	Direct mitigation measures have been discussed in Section 4.5.4 and mitigation measures in form of noise barriers, facade with no openable window, architectural fins, low noise surfacing and roadside noise barrier have been presented in Table 4.25 for Year 2023, 2025, 2027 and 2045.
Appendix C 3.4.1(b)	The total number of noise sensitive receivers that will be benefited from and be protected by the provision of direct mitigation measures should be provided. The total number of other noise sensitive receivers that will still be exposed to noise above the criteria with the implementation of all recommended direct mitigation measures shall be quantified.	The total number of noise sensitive receivers that will be benefited from and be protected by the provision of direct mitigation measures has been discussed in Section 4.5.4.
Appendix C 3.4.1(c)	For planned noise sensitive uses which will still be affected even with practicable direct mitigation measures in place, the Applicant shall propose, evaluate and confirm the practicability of additional direct mitigation measures within the planned noise sensitive uses and shall make recommendations on how these noise sensitive uses will be designed for the information of relevant parties.	No planned NSR has been identified that will still be affected even with practicable direct mitigation measures in place.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 3.4.1(d)	The Applicant shall take into account agreed environmental requirements/ constraints identified in the EIA study to assess the development potential of concerned sites which shall be made known to the relevant parties.	The agreed environmental requirements / constraints identified in the EIA study have been given in Chapter 2, and taken into account in the assessment of development potential of concerned sites. The constraints have been confirmed with Planning Department, Housing Department and Lands Department.
Appendix C 3.4.2(a)	<i>Indirect Mitigation Measures</i>  Upon exhaust of direct mitigation measures, where the predicted road traffic noise impact still exceeds the criteria set in Table 1A of Annex 5, TM, the Applicant shall consider indirect mitigation measures in the form of window insulation and air-conditioning and evaluate in accordance with Section 6.2 in Annex 13 of TM.	Section 4.5.4 has addressed and demonstrated that indirect mitigation measures are not required under this Project according to Section 4.8 of EIAO Guidance Note No. 12/2010.
Appendix C 3.4.2(b)	The Applicant shall identify and estimate the total number of existing dwellings, classrooms and other noise sensitive elements which may qualify for indirect mitigation measures, the associated costs and any implications for such implementation.	Section 4.5.4 has addressed and demonstrated that indirect mitigation measures are not required under this Project according to Section 4.8 of EIAO Guidance Note No. 12/2010.
Appendix C 3.4.2(c)	For the purpose of determining eligibility of the affected premises for indirect mitigation measures, reference shall be made to methodology accepted by the recognized national/international organization or methodologies adopted for Hong Kong projects having similar issues on proposing an assessment methodology for determining eligibility of the indirect mitigation measures which shall be confirmed with the Director with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment.	Section 4.5.4 has addressed and demonstrated that indirect mitigation measures are not required under this Project according to Section 4.8 of EIAO Guidance Note No. 12/2010.
Appendix C 3.5	<u>Evaluation of Residual Road Traffic Noise Impact</u> Upon exhaust of direct and indirect mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict and evaluate the residual road traffic noise impact in accordance with Section 4.4.3 of the TM and Section 6.2 in Annex 13 of the TM.	Adverse residual impact is not anticipated as discussed in Section 4.5.4 and no further mitigation measure is required.
<b>Appendix C 4</b>	<b><u>Fixed Noise Sources Impact Assessment</u></b>	
Appendix C 4.1	<u>Fixed Noise Sources Impact Assessment Methodology</u> The Applicant shall carry out fixed noise sources impact assessment from the Project in accordance with methodology in paragraph 5.2 of Annex 13 of the TM.	Fixed noise sources impact assessment methodology has been discussed in Section 4.6.1.
Appendix C 4.2.1(a)	<u>Identification of Fixed Noise Sources Impact</u> <i>Identification of Assessment Area and Noise Sensitive Receivers</i> ( a) The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the fixed noise impact shall generally include areas within 300 metres from the boundary of the Project and the works of the Project.	The assessment area for fixed noise source impact assessment has been discussed in Section 4.6.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 4.2.1(b)	The Applicant shall identify all existing, committed and planned NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out fixed noise sources impact assessment described below.	The first layer of representative NSRs has been selected for assessment in Section 4.6.2. Their locations are shown in Figure 4.8 and photos of NSRs are shown in Appendix 4.1.
Appendix C 4.2.1(c)	The assessment points shall be confirmed with the Director prior to the commencement of the quantitative fixed noise sources impact assessment and may be varied subject to the best and latest information available during the course of the EIA study.	The first layer of representative NSRs has been selected for assessment in Section 4.6.2. Their locations are shown in Figure 4.8 and photos of NSRs are shown in Appendix 4.1. A separate working paper on the assessment points has been approved by Director prior to the commencement of the quantitative fixed noise sources impact assessment.
Appendix C 4.2.1(d)	A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.	The representative NSRs are shown in Figure 4.8 and photos are shown in Appendix 4.1.
Appendix C 4.2.1(e)	For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for fixed noise sources assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.	The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.
Appendix C 4.2.2(a)	<i>Inventory of Noise Sources</i> The Applicant shall identify and quantify an inventory of noise sources for fixed noise sources impact assessment. The inventory of noise sources shall include, but not limited to noise associated with the possible theme park, any permanent and temporary industrial noise sources including ventilation system(s) of building(s) and/or tunnel(s), ventilation shafts of railway, sewage pumping station(s), seawater pumping station(s) and electricity substation(s), etc.	The inventory of noise sources has been discussed in Sections 4.2.2 and 4.2.3. The inventory of fixed noise sources include Salt Water Pumping Station / Sewage Pumping Station / Pumping Station, sports ground, Chung Mun Road Sewage Pumping Station, fire station, electric substation, public transport interchange, boatyard and maintenance area, Tung Chung East / West Railway Stations.
Appendix C 4.2.2(b)	The Applicant shall provide document or certificate, accepted by recognized national/international organization, for the sound power level of each type of fixed noise sources.	Maximum sound power levels of fixed plants are determined in the EIA report. Therefore certificate for sound power level of sources are not applicable.
Appendix C 4.2.2(c)	Validity of the inventory shall be confirmed with the relevant government departments/authorities and documented in the EIA report.	The validity of the inventory has been confirmed with the project proponent.
Appendix C 4.3.1(a)	<u>Prediction and Evaluation of Fixed Noise Sources Impact</u> <i>Scenarios</i> The Applicant shall quantitatively assess the fixed noise sources impact with respect to criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at assessment years of various operation modes including, but not limited to,  (i) the worst operation mode which represents the maximum noise ermssion in connection of identified noise sources of the Project; and  (ii) any other operation modes as confirmed with the Director.	The fixed noise sources impact has been presented in Section 4.6.3. The maximum SWLs for the Salt Water Pumping Station / Sewage Pumping Station / Pumping Station, Chung Mun Road Sewage Pumping Station, fire station, electric substation, public transport interchange, boatyard and maintenance area, Tung Chung East / West Railway Stations have been predicted. For the sports ground, the noise impacts are within respective noise criterion.  The worst operational mode has been adopted and confirmed with the project proponent as presented in Section 4.6.3.  The worst operational mode has been adopted as presented in Section 4.6.3.
Appendix C 4.3.1(b)	Validity of the above operational modes shall be confirmed with relevant departments/authorities and documented in the EIA report.	The operational mode has been confirmed with the project proponent.
Appendix C 4.3.2(a)	<i>Prediction of Noise Impact</i>  The Applicant shall present the predicted noise levels in Leq (30 min) at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.	The noise prediction have been presented in Appendices 4.15, 4.16 and 4.17.
Appendix C 4.3.2(b)	The assessment shall cover the cumulative fixed noise sources impact associated with the operation of the proposed project on existing, committed and planned NSRs within the assessment area.	Cumulative fixed noise sources impacts have been presented in Appendices 4.15, 4.16 and 4.17.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 4.3.2(c)	The potential fixed noise sources impact under different scenarios shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms and other NSRs exceeding the criteria are presented in Section 4.6.4.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 4.4	<u>Mitigation of Fixed Noise Sources Impact</u> <i>Direct Mitigation Measures</i> Where the predicted fixed noise sources impact exceeds the criteria set in Table 1A of Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure, screening by noise tolerant buildings, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.	As discussed in Section 4.6.3, the Contractor shall install acoustic silencers, noise barrier or acoustic enclosure as appropriate to ensure the specified maximum SWLs will not be exceeded. Section 4.6.4 stated that the feasibility, practicability, programming and effectiveness of the mitigation measures have been reviewed by engineer.
Appendix C 4.5	<u>Evaluation of Residual Fixed Noise Sources Impact</u>  Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict, evaluate the residual fixed noise sources impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 in the TM.	Adverse residual fixed impact is not anticipated as discussed in Section 4.6.5 and no further mitigation measure is required.
<b>Appendix C 5</b>	<b><u>Aircraft Noise Impact Assessment</u></b>	
Appendix C 5.1	<u>Aircraft Noise Impact Assessment Methodology</u>  The Applicant shall propose methodology for agreement of the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment.	Aircraft noise impact assessment methodology has been discussed in Section 4.7.1.
Appendix C 5.2(a)	<u>Identification of Aircraft Noise Impact</u> <i>Identification of Assessment Area and Noise Sensitive Receivers</i> The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment.	The assessment area for aircraft noise assessment has been discussed in Section 4.7.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 5.2(b)	The Applicant shall identify all existing, committed and planned NSRs on the proposed Project in the assessment area for carrying out aircraft noise impact assessment described below.	The NSRs at TCE and TCW have been selected for assessment in Section 4.7.2. Their locations are shown in Figure 4.9 and photos of NSRs are shown in Appendix 4.1.
Appendix C 5.2(c)	The Applicant shall consider and evaluate the constraints imposed by aircraft noise impact from operation of the HKIA and the planned Expansion of HKIA into a Three-Runway System in deriving land uses within the proposed Project.	The prediction and evaluation of aircraft noise impact have been discussed in Section 4.7.3.
Appendix C 5.2(d)	For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for aircraft noise assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.	The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.
Appendix C 5.3.1	<u>Prediction and Evaluation of Aircraft Noise Impact</u>  The Applicant shall assess the aircraft noise impact arising from on-going operation of the Hong Kong International Airport (HKIA) and potential aircraft noise impact arising from the planned expansion of the HKIA into a three-runway system on the proposed Project with respect to the criteria set in Annex 5 of the TM. The assessment shall be based on the best available Noise Exposure Forecast (NEF) contours of the HKIA at the time of the assessment. The Applicant shall consult Civil Aviation Department for the information regarding Noise Exposure Forecast contours of the HKIA. Validity of the information shall be confirmed with Civil Aviation Department and documented in the EIA report.	The assessment has been based on the NEF contours in the approved EIA report for Expansion of Hong Kong International Airport into a Three-Runway System (AEIAR-185/2014) as discussed in Sections 4.2.2 and 4.7.3. The NEF contours have been confirmed with Civil Aviation Department (CAD) and Airport Authority Hong Kong (AAHK).
Appendix C 5.3.2	<i>Prediction of Noise Impact</i> Where the predicted aircraft noise impact exceeds the criteria set in Annex 5 in the TM, the Applicant shall quantify the aircraft noise impact by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria and shall made an evaluation of the anticipated changes and effects of aircraft noise impact in accordance with Section 4.3.1 (c) of TM.	As discussed in Section 4.7.3, for TCW, the boundary will be away from the predicted NEF 25 contours for all the three operational modes for the 3RS. Adverse aircraft noise impact is not anticipated. For TCE, appropriate development phasing has been considered to ensure all the NSRs will be outside the NEF 25 noise contours.
Appendix C 5.3.3	To determine the extent of the impact, the Applicant shall provide maps at an adequately detailed scale (not less than 1 :5000) to show the NEF contours and the relevant NSRs.	The noise contours (with scale 1:5000) have been presented in Figure 4.3.
Appendix C 5.4.1	<u>Mitigation of Aircraft Noise Impact</u> <i>Direct Mitigation Measures</i>	
Appendix C 5.4.1(a)	The Applicant shall propose direct mitigation measures in all situations where the noise level exceedance are identified following the principle of section 6 of Annex 13 of the TM including but not limited to alternative land use arrangement. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.	As discussed in Section 4.7.3, for TCW, the boundary will be away from the predicted NEF 25 contours. Adverse aircraft noise impact is not anticipated. For TCE, appropriate development phasing has been considered to ensure all the NSRs will be outside the NEF 25 noise contours. Direct mitigation measures are not required.
Appendix C 5.4.1(b)	The total number of noise sensitive receivers that will be benefited from and be protected by the provision of direct mitigation measures should be provided. The total number of other noise sensitive receivers that will still be exposed to noise above the criteria with the implementation of all recommended direct mitigation measures shall be quantified.	The total number of NSRs that will be benefited from and protected by the provision of direct mitigation measures, and total number of NSRs still exposed to noise above the criteria with all direct mitigation measures are discussed in Section 4.7.3.
Appendix C 5.4.2	<i>Indirect Mitigation Measures</i>	
Appendix C 5.4.2(a)	Upon exhaust of direct mitigation measures, where the predicted aircraft noise impact still exceeds the criteria set in Annex 5 of the TM, the Applicant shall consider indirect mitigation measures in the form of window insulation and air-conditioning and evaluate in accordance with Section 6.2 in Annex 13 of the TM.	Since the NSRs will be outside the NEF 25 noise contours in the unmitigated scenario, indirect mitigation measures are not required.
Appendix C 5.4.2(b)	The Applicant shall identify and estimate the total number of existing dwellings, classrooms and other noise sensitive elements which may qualify for indirect mitigation measures, the associated costs and any implications for such implementation.	The total number of existing dwellings, classrooms and other noise sensitive elements which may qualify for indirect mitigation measures are discussed in Section 4.7.4.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 5.5	<u>Evaluation of Residual Aircraft Noise Impact</u> Upon exhaust of direct and indirect mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict and evaluate the residual aircraft noise impact in accordance with Section 4.4.3 of the TM.	Adverse residual aircraft noise impacts are not anticipated as discussed in Section 4.7.5.
<b>Appendix C 6</b>	<b><u>Rail Noise Assessment</u></b>	
Appendix C 6.1	<u>Rail Noise Impact Assessment Methodology</u> The Applicant shall propose methodology and computational model for agreement of the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment.	The rail noise impact assessment methodology has been discussed in Sections 4.8.1 and 4.9.1.
Appendix C 6.2.1(a)	<u>Identification of Rail Noise Impact</u>	
Appendix C 6.2.1(a)	<i>Identification of Assessment Area and Noise Sensitive Receivers</i> The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the rail noise impact shall generally include areas within 300 metres from the boundary of the Project and the works of the Project.	The assessment area and selected assessment points for rail noise assessment have been discussed in Sections 4.8.2 and 4.9.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 6.2.1(b)	The Applicant shall identify all existing, committed and planned NSRs on the proposed Project in the assessment area and select assessment points to represent identified NSRs for carrying out rail noise impact assessment described below.	The first layer of representative NSRs has been selected for assessment in Sections 4.8.2 and 4.9.2. Their locations are shown in Figure 4.10 and 4.11 and photos of NSRs are shown in Appendix 4.1.
Appendix C 6.2.1(c)	The assessment points shall be confirmed with the Director prior to the commencement of the quantitative rail noise impact assessment and may be varied subject to the best and latest information available during the course of the EIA study.	The first layer of representative NSRs has been selected for assessment in Sections 4.8.2 and 4.9.2. Their locations are shown in Figures 4.10 and 4.11 and photos of NSRs are shown in Appendix 4.1. A separate working paper on the assessment points has been approved by Director prior to the commencement of the quantitative rail noise impact assessment.
Appendix C 6.2.1(d)	A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.	The representative NSRs are shown in Figures 4.10 and 4.11 and photos are shown in Appendix 4.1.
Appendix C 6.2.1(e)	For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for rail noise assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.	The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.
Appendix C 6.2.2	<i>Inventory of Noise Sources</i>	
Appendix C 6.2.2(a)	The Applicant shall identify and quantify an inventory of noise sources for rail noise impact assessment. The inventory of noise sources shall include, but not limited to, the existing and planned railways within assessment area.	The inventory of noise sources for rail noise impact assessment has been discussed in Appendices 4.19 and 4.22a.
Appendix C 6.2.2(b)	The Applicant shall allow for deterioration in rail and rolling stock condition from brand new to an operating level in the prediction of noise impact.	A 3dB(A) rail deterioration has been allowed as discussed in Appendix 4.18 for rail airborne noise, and 10dB safety factor in Appendix 4.22 for rail groundborne noise.
Appendix C 6.2.2(c)	Validity of the inventory shall be confirmed with the railway operator and documented in the EIA report.	Validity of the inventory has been confirmed with rail operator.
Appendix C 6.3.1(a)	<u>Prediction and Evaluation of Rail Noise Impact</u>  <i>Scenarios</i> The Applicant shall quantitatively assess the rail noise impact, with respect to the criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at assessment years of various operation modes including, but not limited to,  (i) the worst operation mode which represents the maximum noise emission in connection of identified railways taking into account any other planned noise sources; and  (ii) any other operation modes as confirmed with the Director.	The unmitigated scenario of rail noise impact has been presented in Sections 4.8.3 and 4.9.3.  The worst operation scenario has been confirmed with the rail operator as discussed in Sections 4.8.3, 4.9.3 and Appendix 4.18.  The worst operation scenario has been confirmed with the rail operator as discussed in Sections 4.8.3, 4.9.3 and Appendix 4.18.
Appendix C 6.3.1(b)	Validity of the above operational modes shall be confirmed with the rail operator and documented in the EIA report.	Validity of the operational modes has been confirmed and discussed in Sections 4.8.2 and 4.9.2.
Appendix C 6.3.2(a)	<i>Prediction of Noise Impact</i>  The Applicant shall present the noise levels in Leq(30min) and Lmax during the day and at night at the NSRs at various representative floor levels (in mPD) on tables and plans of suitable scale.	The rail noise levels at night time at the NSRs at various representative floor levels have been presented in Appendices 4.21 and 4.23. Since the daytime and nighttime peak headways are the same, the predicted railway noise levels are also the same for both periods.
Appendix C 6.3.2(b)	The assessment shall cover the cumulative rail noise impact associated with the existing and planned railways on existing, committed and planned NSRs within the assessment area.	Cumulative rail noise impacts from TCL and AEL have been included in the rail noise assessment.
Appendix C 6.3.2(c)	The potential rail noise impact under different scenarios and operation modes shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms and other NSRs exceeding the criteria are presented in Section 4.8.3, 4.8.4 and 4.9.3.
Appendix C 6.4	<u>Mitigation of Rail Noise Impact</u>  <i>Direct Mitigation Measures</i>  Where the predicted rail noise impact exceeds the criteria set in Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure, screening by noise tolerant buildings, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.	For rail noise, mitigation measures are presented in Sections 4.8.4 and 4.9.4.
Appendix C 6.5	<u>Evaluation of Residual Rail Noise Impact</u>  Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict, evaluate the residual rail noise impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 in the TM.	The total number of dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact are presented in Section 4.8.5 and 4.9.5.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
<b>Appendix C 7</b>	<b>Helicopter Noise Assessment</b>	
Appendix C 7.1	<u>Helicopter Noise Impact Assessment Methodology</u> The Applicant shall propose methodology and computational model for agreement of the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment.	Section 4.10.1 has presented the helicopter noise assessment methodology.
Appendix C 7.2.1	<u>Identification of Assessment Area and Noise Sensitive Receivers</u>	
Appendix C 7.2.1(a)	The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for helicopter noise impact shall include area of existing, committed and planned NSRs on the proposed Project under or near to the flight tracks in vicinity of the existing and planned helicopter pad(s).	The assessment area and selected assessment points for helicopter noise assessment have been discussed in Section 4.10.2. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.
Appendix C 7.2.1(b)	The Applicant shall identify all existing, committed and planned NSRs on the proposed Project in the assessment area.	The first layer of representative NSRs has been selected for assessment in Section 4.10.2. Their locations are shown in Figure 4.12. A separate working paper on the assessment points has been approved by Director prior to the commencement of the quantitative helicopter noise impact assessment.
Appendix C 7.2.1(c)	For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant planning parameters to work out representative site layouts for helicopter noise assessment purpose. However, such assumptions together with any constraints identified shall be agreed by the relevant responsible parties including Planning Department and Lands Department.	The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.
Appendix C 7.2.2(a)	<u>Inventory of Noise Sources</u> The Applicant shall identify and quantify an inventory of noise sources for helicopter noise impact assessment. The inventory of noise sources shall include, but not limited to, helicopter noise characteristics (such as data representing noise emission and performance etc) for all potential helicopter operating at the existing and planned helicopter pad(s). The information of the helicopter noise characteristics shall be referred to a database accepted by recognized national/international organization, as agreed by the Director.	The inventory of helicopter noise has been made reference to ICAO noise standard.
Appendix C 7.2.2(b)	Validity of the above data shall be confirmed with relevant government departments/authorities and documented in the EIA report.	The inventory of helicopter noise has been agreed with GFS.
<b>Appendix C 7.3</b>	<b>Prediction and Evaluation of Helicopter Noise Impact</b>	
Appendix C 7.3.1	<u>Scenarios</u>	
Appendix C 7.3.1(a)	The Applicant shall quantitatively assess the helicopter noise impact from the operation of the existing and planned helicopter pad(s) and related off site facilities during helicopters approaching and departure from the helicopter pad(s), with respect to the criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at assessment years of various operation modes including, but not limited to,  (i) the worst operation mode which represents the maximum noise emission in connection of helicopter types, flight paths, flight frequency and flight hours, and;  (ii) any other operation modes as agreed by the Director.	The unmitigated scenario has been presented in Section 4.10.3.  The unmitigated scenario on the worst operational mode has been presented in Section 4.10.3.  The unmitigated scenario on the worst operational mode has been presented in Section 4.10.3.
Appendix C 7.3.1(b)	Validity of the above operation modes shall be confirmed with relevant government departments/authorities and documented in the EIA report.	Validity of the above operational mode has been confirmed with GFS, CAD and AAHK and presented in Section 4.10.3.
Appendix C 7.3.2(a)	<u>Prediction of Noise Impact</u>  The Applicant shall present the predicted helicopter noise impact in contours, with reference to criteria set in Annex 5 of the TM, including contours for each scenario assessed under various operation modes, on plans of suitable scale and documented in the EIA report. To determine the extent of the impact, the Applicant shall provide maps at an adequately detailed scale (not less than 1 :5000) to show the contours.	The unmitigated scenario on the worst operational mode has been presented in Section 4.10.3.
Appendix C 7.3.2(b)	The assessment shall cover the cumulative helicopter noise impact associated with the operation of the existing and planned helicopter pad(s) and related off site facilities on existing, committed and planned NSRs within assessment area.	There is no identified existing / planned helicopter pad near TCE and TCW.
Appendix C 7.3.2(c)	The potential helicopter noise impact under different scenarios and operation modes shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.	The potential helicopter noise impact under different scenarios and operational modes has been presented in Section 4.10.3.
Appendix C 7.4.1	<u>Mitigation of Helicopter Noise Impact</u>  <u>Direct Mitigation Measures</u> Where the predicted helicopter noise impact exceeds the criteria set in Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure, screening by noise tolerant buildings, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.	The unmitigated helicopter noise impacts are presented in Section 4.10.3. No mitigation measures are required.
Appendix C 7.5	<u>Evaluation of Residual Helicopter Noise Impact</u>  Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict and evaluate the residual helicopter noise impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 of the TM.	Adverse residual helicopter noise impacts are not anticipated as discussed in Section 4.10.5.
Appendix C 8.1	<u>Marine Traffic Noise Impact Assessment</u>  <u>Marine Traffic Noise Impact Assessment Methodology</u>  The Applicant shall propose methodology and computation model which shall be agreed with the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment.	The marine traffic noise impact assessment methodology has been discussed in Section 4.11.1.



Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix C 8.2.1(a)	<p><u>Identification of Marine Traffic Noise Impact</u></p> <p><i>Identification of Assessment Area and Noise Sensitive Receivers</i></p> <p>The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment.</p>	<p>The assessment area has been presented in Section 4.11.2 and Appendix 4.27. A separate working paper on the assessment area for agreement has been approved by EPD before commencing assessment.</p>
Appendix C 8.2.1(b)	<p>The Applicant shall identify all existing, committed and planned NSRs on the proposed Project in the assessment area and select assessment points to represent identified NSRs for carrying out marine traffic noise impact assessment described below.</p>	<p>The assessment area and assessment points have been presented in Section 4.11.2.</p>
Appendix C 8.2.1(c)	<p>In case the Applicant proposes ferry pier/berth in the Project, the Applicant shall also assess the marine traffic noise on existing, committed and planned NSRs outside the Project in the assessment area The assessment points shall be confirmed with the Director prior to the commencement of the marine traffic noise impact assessment and may be varied subject to the best and latest information available during the course of the EIA study.</p>	<p>The assessment points have been presented in Section 4.11.2. A separate working paper on the assessment points for agreement has been approved by EPD before commencing assessment.</p>
Appendix C 8.2.1(d)	<p>A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.</p>	<p>The representative NSRs are shown in Figure 4.13 and photos are shown in Appendix 4.1.</p>
Appendix C 8.2.1(e)	<p>For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for marine traffic noise assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.</p>	<p>The site layouts, relevant landuse and planning parameters and conditions have been confirmed with Planning Department and Lands Department.</p>
Appendix C 8.2.2	<p><i>Inventory of Noise Sources</i></p> <p>The Applicant shall identify and quantify any marine traffic noise sources including but not limited to noise from operation activities on the moored vessels; manoeuvring of vessels using existing pier etc within the assessment area.</p>	<p>The inventory of noise sources has been presented in Appendix 4.26a.</p>
Appendix C 8.3.1	<p><u>Prediction and Evaluation of Marine Traffic Noise Impact</u></p> <p><i>Scenarios</i></p> <p>The Applicant shall assess the marine traffic noise impact, with respect to proposed criteria which the applicant shall submit for agreement with the Director (with reference to section 4.4.2( c) of the TM), of unmitigated scenario and mitigated scenario at assessment years of various operation modes including, but not limited to,</p> <p>(i) the worst operation mode which represents the maximum noise emission in connection of identified noise sources; and</p> <p>(ii) any other operation modes as confirmed with the Director.</p>	<p>The unmitigated scenario of marine traffic noise impact has been presented in Appendix 4.28.</p> <p>The worst operational mode representing the maximum noise emission has been adopted and stated in Section 4.11.3.</p> <p>The operational mode has been confirmed with the project proponent.</p>
Appendix C 8.3.2(a)	<p><i>Prediction of Noise Impact</i></p> <p>The Applicant shall present the predicted noise levels at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.</p>	<p>The noise levels at various representative floor levels have been presented in Appendix 4.28.</p>
Appendix C 8.3.2(b)	<p>The assessment shall cover the cumulative marine traffic noise impact associated with the operation of the proposed project on existing, committed and planned NSRs within the assessment area.</p>	<p>Cumulative marine traffic noise impact from the proposed marina and existing ferry route for the public pier in Tung Chung has been included and presented in Appendix 4.28.</p>
Appendix C 8.3.2(c)	<p>The potential marine traffic noise impact under different scenarios shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the adopted criteria.</p>	<p>The total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the adopted criteria have been discussed in Section 4.11.3.</p>
Appendix C 8.4	<p><u>Mitigation of Marine Traffic Noise Impact</u></p> <p><i>Direct Mitigation Measures</i></p> <p>Where the predicted marine traffic noise impact exceeds the proposed criteria, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure, screening by noise tolerant buildings etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the proposed criteria should be clearly substantiated and documented in the EIA report.</p>	<p>The unmitigated marine traffic noise impacts are presented in Section 4.11.3. No mitigation measures are required.</p>
Appendix C 8.5	<p><u>Evaluation of Residual Marine Traffic Noise Impact</u></p> <p>Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the adopted criteria, the Applicant shall identify, predict, evaluate the residual marine traffic noise impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the adopted criteria.</p>	<p>Adverse residual marine traffic noise impacts are not anticipated as discussed in Section 4.11.5.</p>
<b><u>Requirements for Water Quality Impact Assessment</u></b>		
Appendix D 1	<p>The Applicant shall identify and analyse physical, chemical and biological disruptions of the water system(s) arising from the construction and operation of the Project.</p>	<p>Section 5.3 describes assessment methodology. Section 5.4 describes the pollution sources, evaluates and assesses the impact from the land-based work of the project in construction phase.Section 5.5 describes the pollution sources, evaluates and assesses the impact from the marine-based work of the project in construction phase. Section 5.6 describes the pollution sources, evaluates and assesses the impact from the project in operational phase. For the construction phase, the major source of impact would be sediment loss during land formation and contaminant release. For the operation phase, the major sources of impact would be sewage and pollution loads from increased population due to the project. The major source of impact from concurrent projects during construction phase is sediment loss from various construction activities; for operation phase, sewage and pollution loads from increased population due to the project are the major sources of concern.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix D 2	<p>The Applicant shall predict, quantify and assess any water quality impacts arising from the construction and operation of the Project by appropriate mathematical modelling and/or other techniques proposed by the Applicant and approved by the Director. The mathematical modelling requirements are set out in Appendix D-1. Possible impacts due to the dredging, fill extraction, backfilling, transportation and disposal of dredged materials, other marine works activities, effluent discharge, thermal/cooling water and biocide discharge, overflow of sewage pumping stations and site runoff shall include changes in hydrology, flow regime, sediment erosion and deposition patterns, morphological change of seabed profile, shoreline change, water and sediment quality, marine and freshwater organisms/community. The prediction shall include possible different construction stages or sequences of the Project. Affected sensitive receivers shall be identified by the assessment tool with indications of degree of severity.</p>	<p>Section 5.3 describes assessment methodology.</p> <p>Section 5.4.1, 5.5.2, 5.6.1 describe the pollution sources.</p> <p>Delft-FLOW was used to quantify the hydrodynamic changes due to land formation of project during construction and operation phases.</p> <p>Delft-WAQ was used to quantify the impacts to WSRs due to the sediment loss afrom construction phase and change in pollution loads during the operation phase.</p> <p>Model results for operation phase of the various parameters of concerns (i.e. SS, DO, NH3 etc.) were extracted from the representative WSRs in Appendix 5.7 for assessment by comparison to the criteria stated in Section 5.1.</p>
Appendix D 3	<p>The assessment shall include, but not limited to the following:</p> <p>(i) the water quality impacts of the site run-off generated during the construction stage such as the effluents generated from dewatering associated with piling activities, grouting and concrete washing and those specified in the ProPECC Practice Note 1/94;</p> <p>(ii) the water quality impacts of the road runoff containing oil/grease and suspended solids during the operational stage; and</p> <p>(iii) the water quality impacts on beaches, seawater intake points, river courses, drainages and other water sensitive receivers around the work sites.</p>	<p>Section 5.1.5 and 5.1.6 describe ProPECC Note PN 1/94.</p> <p>Section 5.4.2 identifies pollution sources from construction site run-off and drainage.</p> <p>Section 5.6.3 and 5.6.8 assesses and evaluates potential water quality impacts arise from site run-off.</p> <p>Section 5.6.8 identifies potential sources of impact from road runoff to Tung Chung Stream.</p> <p>Section 5.6.8, 5.6.10 assess and evaluate potential water quality impacts arise from road runoff.</p> <p>Section 5.3 describe WSRs identified within the study area for assessment, the indicative locations are shown in Figure 5.1</p>
Appendix D 4	<p>The Applicant shall address water quality impacts due to the construction phase and operational phase of the Project. Essentially, the assessment shall address the following:</p> <p>(i) collect and review background information on affected existing and planned water systems, their respective catchments and sensitive receivers (e.g. proposed Marine Park at the Brothers, Tung Chung Bay, Tung Chung Stream and Tung Chung East waters) which might be affected by the Project;</p> <p>(ii) characterize water quality of the water systems and sensitive receivers, which might be affected by the Project based on existing best available information or through appropriate site survey and tests;</p> <p>(iii) identify and analyse relevant existing and planned future activities, beneficial uses and water sensitive receivers related to the affected water system(s). The Applicant should refer to, inter alia, those developments and uses earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans and Layout Plans, and any other relevant published landuse plans;</p> <p>(iv) identify pertinent water quality objectives and establish other appropriate water quality criteria or standards for the water system(s) and the sensitive receivers identified in (i), (ii) &amp; (iii) above;</p> <p>(v) review the specific construction methods and configurations, and operation of the Project to identify and predict the likely water quality impacts arising from the Project;</p> <p>(vi) identify any alteration of any water courses, natural streams, ponds, wetlands, change of water holding/flow regimes of water bodies, change of catchment types or areas, erosion or sedimentation due to the Project and any other hydrological changes in the study area;</p> <p>(vii) identify and quantify existing and likely future water pollution sources, including point discharges and non-point sources to surface water runoff, sewage from workforce and polluted discharge generated from the Project, contaminant release from works on marine sediment and sediment release or re-suspension from works into water bodies;</p> <p>(viii) provide an emission inventory on the quantities and characteristics of those existing and future pollution sources in the study area. Field investigation and laboratory test, shall be conducted as appropriate to fill relevant information gaps;</p> <p>(ix) assess the adequacy of the existing sewerage and sewage treatment facilities for the handling, treatment and disposal of wastewater arising from the Project as required in section 3.4.4. The water quality impacts should be assessed if any upgrading or expansion of the existing system is found necessary;</p> <p>(x) identify and quantify the water quality impacts based on the findings and recommendations from the Sewerage and Sewage Treatment Implications Assessment under section 3.4.4. The water quality concerns shall include, but not limited to, possible sewage overflow or emergency discharge due to capacity constraints of the sewerage system, and emergencies arising from the Project;</p> <p>(xi) predict and quantify the impacts on the water system(s) and their sensitive receivers due to the alterations, changes and the pollution sources identified above. Possible impacts include change in hydrology, flow regime, water quality and release of contaminants during dredging and other marine works, etc. Water quality impacts due to periodical maintenance dredging of navigation channels in the vicinity of the Project should also be assessed. The prediction shall take into account and include possible different construction and operation stages of the Project;</p> <p>(xii) assess the cumulative impacts due to other related concurrent and planned projects, activities or pollution sources within the study area that may have a bearing on the environmental acceptability of the Project;</p> <p>(xiii) analyze the provision and adequacy of existing and planned future facilities to reduce pollution arising from the point and non-point sources identified in (vii) above;</p> <p>(xiv) develop effective infrastructure upgrading or provision, contingency plan, water pollution prevention and mitigation measures to be implemented during construction and operation stages, including emergency sewage discharge, so as to reduce the water quality impacts to within standards. Requirements to be incorporated in the project contract document shall also be proposed;</p> <p>(xv) investigate, develop and design best management practices and propose proper maintenance procedures to reduce storm water/surface runoff and non-point source pollution as appropriate; and</p> <p>(xvi) evaluate and quantify residual impacts on water system(s) and the sensitive receivers with regard to the appropriate water quality objectives, criteria, standards or guidelines. If the mitigated water quality impact still exceeds the relevant criteria in Annex 6 of TM, the Applicant shall identify, predict and evaluate the residual water quality impact in accordance with Section 4.4.3 of the TM and estimate the significance of the residual impact to the water system(s) and the water sensitive receivers.</p>	<p>Section 5.2 collects and reviews background information on affected existing and planned water systems, their respective catchments and sensitive receivers which might be affected by the project.</p> <p>Section 5.2.3 describes the existing baseline conditions within the study area, which was based on the latest water quality and sediment monitoring data from EPD website.</p> <p>Section 5.3 describes WSR within the study area and the indicative locations are shown in Figure 5.1. Existing and planned seawater intakes were included as WSRs.</p> <p>Section 5.1.2 presents relevant local WQOs and local and international assessment criteria/standards.</p> <p>Section 5.5.1 reviews the specific construction methods and configurations to identify likely water quality impacts during construction phase, while Section 5.6.1 identifies the sources and likely water quality impacts during operation phase.</p> <p>Section 5.6.2 describes the potential hydrodynamic changes that may arise due to the project. Shoreline changes from project and concurrent projects were included in the assessment.</p> <p>Section 5.4.1, 5.5.2, 5.6.1 identifies water pollution sources. Appendix 5.4b and Appendix 5.5 quantify the water pollution sources.</p> <p>Appendix 5.4b and Appendix 5.5 include the methodology for the pollution loading inventory, which was used for the quantifying impacts due to operation of project. No field investigation and laboratory test was necessary.</p> <p>Section 5.6.4 and 5.6.5 assess and evaluate the impact to the existing sewerage treatment facility due to additional sewage loads. There is no additional sewerage treatment required under this project. The sewage generated from the project will be diverted to Siu Ho Wan STW.</p> <p>Section 5.6.4 and 5.6.5 assess and evaluate the impact to the existing sewerage treatment facility due to additional sewage loads. For TCV SPSs and CMRSPS, there will be no emergency sewage overflow system for the proposed new sewage pumping station into Tung Chung Stream. For TCE SPSs, emergency sewage overflow will be discharged at the north of TCE far away from Tung Chung Stream and Tai Ho Wan. No impact is anticipated to arise due to the additional loads from the operation of project.</p> <p>Section 5.3 presents the assessment methods and Section 5.5 and 5.6 evaluate and assesse the water quality impacts due to the project for construction phase and operational phase. Different construction stages representing the worst case periods were taken into account in the construction phase assessment.</p> <p>Operational phase predictions were based on the worst case operational year (taken as 2030).</p> <p>Section 5.5.3 and 5.6.2 identify the cumulative impacts from potential concurrent projects.</p> <p>Section 5.5.7 and 5.6.7 quantify the cumulative impacts from potential concurrent projects during construction and operation phase</p> <p>Section 5.5.8 and 5.6.10 describes the recommended mitigation measures to be considered and their effectiveness in reducing pollution identified in Section 5.5.2 and 5.6.1. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operation phase.</p> <p>Section 5.6.9 describes the recommended mitigation measures to be considered and their effectiveness in reducing pollution identified in Section 5.5.2 and 5.6.1. The mitigation measures include requirements to be incorporated in the project design / operation phase.</p> <p>Section 5.5.8 and 5.6.10 describes the recommended mitigation measures to be implemented, including best management practices, and their effectiveness in reducing pollution identified in Section 5.5.2 and 5.6.1. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operation phases. Section 13 describes environmental monitoring and audit to verify the mitigation measures.</p> <p>Section 5.5.9 and 5.6.10 describe residual impacts. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operational phase.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check															
Appendix D 5	<p>The Applicant shall address and assess water quality impacts arising from the following concerns:</p> <p><u>Waste Water and Non-point Sources Pollution</u></p> <p>(i) Proposal for upgrading or providing any effective infrastructure, water pollution prevention and mitigation measures to be implemented during the construction and operation stages so as to handle any wastewater generated and to reduce the water and sediment quality impacts to within standards. Requirements to be incorporated in the Proj ect contract document shall also be proposed;</p> <p>(ii) Investigation of and proposal for, as appropriate, best management practices to reduce storm water and non-point source pollution; and</p> <p>(iii) Evaluation and quantification of residual impacts on the water systems(s) and the sensitive receivers with regard to appropriate water quality objectives, criteria, standards or guidelines. If the mitigated water quality impact still exceeds the relevant criteria in Annex 6 of TM, the Applicant shall identify, predict and evaluate the residual water quality impact in accordance with Section 4.4.3 of the TM and estimate the significance of the residual impact to the water system(s) and the water sensitive receivers.</p>	<p>Section 5.6.8 describes pollution mitigation measures to reduce pollution arising from the point and non-point sources identified in Section 5.6.4. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operation phase. The mitigation measures include requirements to be incorporated in the project design / operation phase.</p> <p>Section 5.6.9 describes the recommended mitigation measures to be implemented, including best management practices, and their effectiveness in reducing pollution identified in Section 5.6.4. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operation phase. Section 13 describes environmental monitoring and audit to verify the mitigation measures.</p> <p>Section 5.5.9 and 5.6.10 describe residual impacts. The mitigation measures are considered appropriate as no significant adverse residual impact was predicted for the construction and operational phase.</p>															
<b><u>Hydrodynamic and Water Quality Modelling Requirements</u></b>																	
<b><u>Modelling Software General</u></b>																	
Appendix D-1 1	The modelling software shall be fully 3 -dimensional capable of accurately simulating the stratified condition, salinity transport, and effects of wind and tide on the water body within the model area.	<p>Section 5.3.4 describes the modelling software, Delft-3D used to simulate the different scenarios in construction and operation phase.</p> <p>Hydrodynamic – Delft-FLOW</p> <p>Construction phase – sediment plume and contaminant release – Delft-WAQ</p> <p>Operational phase - salinity, DO, BOD, SS, DIN, NH3, E.coli and sedimentation – Delft-WAQ</p> <p>The hydrodynamic, water quality, sediment transport and thermal modules are mass conserved at all levels.</p> <p>Delft-3D water quality modelling software has been used locally and internationally for water quality simulations.</p> <p>Some local examples include the EIA of 3 Runway System, HKBCF, HATS 2A, WKCD, Providing Sufficient Water Depth for Kwai Tsing Container Basin and its Approach Channel, Kai Tak Development, SCL Protection works at CBTS, WDII and CWB etc.</p>															
Appendix D-1 2	The modelling software shall consist of hydrodynamic, water quality, sediment transport, thermal and particle dispersion modules. All modules shall have been proven with successful applications locally and overseas.	<p>The model adopted is based on the existing, validated model in the previous approved HZMB BCF EIA.</p> <p>Model grid refinement was made to obtain the desired resolution for the project. Section 5.3 and Appendix 5.2b provides the details of the validation of the refined model. The validation shows that the refined model is consistent with the original model in the previous approved HZMB BCF EIA.</p>															
Appendix D-1 3	The hydrodynamic, water quality, sediment transport and thermal modules shall be strictly mass conserved at all levels.																
Appendix D-1 4	An initial dilution model shall be used to characterize the initial mixing of the effluent discharge, and to feed the terminal level and size of the plume into the far field water quality modules where necessary. The initial dilution model shall have been proven with successful applications locally and overseas.																
Appendix D-1 1	<p><b><u>Model Details - Calibration and Validation</u></b></p> <p>The models shall be properly calibrated and validated against applicable existing and/or newly collected field data before their use in this study in the Hong Kong waters, the Pearl Estuary and the Dangan (Lema) Channel. The field data set for calibration and validation shall be agreed with EPD.</p>																
Appendix D-1 2	Tidal data shall be calibrated and validated in both frequency and time domain manner.																
Appendix D-1 3	For the purpose of calibration and validation, the model shall run for not less than 15 days of real sequence of tide (excluding model spin up) in both dry and wet seasons with due consideration of the time required to establish initial conditions.																
Appendix D-1 4	<p>In general the hydrodynamic models shall be calibrated to the following criteria:</p> <table><tr><td><u>Criteria</u></td><td><u>Level of fitness</u></td></tr><tr><td>l tidal elevation (@)</td><td>&lt; 8%</td></tr><tr><td>l maximum phase error at high water and low water</td><td>&lt; 20 minutes</td></tr><tr><td>l maximum current speed deviation</td><td>&lt; 30%</td></tr><tr><td>l maximum phase error at peak speed</td><td>&lt; 20 minutes</td></tr><tr><td>l maximum direction error at peak speed</td><td>&lt; 15 degrees</td></tr><tr><td>l maximum salinity deviation</td><td>&lt; 2.5ppt</td></tr><tr><td>@ Root mean square of the error including the mean and fluctuating components shall meet the criteria at no less than 80% of the monitoring stations in the model domain</td><td></td></tr></table>		<u>Criteria</u>	<u>Level of fitness</u>	l tidal elevation (@)	< 8%	l maximum phase error at high water and low water	< 20 minutes	l maximum current speed deviation	< 30%	l maximum phase error at peak speed	< 20 minutes	l maximum direction error at peak speed	< 15 degrees	l maximum salinity deviation	< 2.5ppt	@ Root mean square of the error including the mean and fluctuating components shall meet the criteria at no less than 80% of the monitoring stations in the model domain
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Appendix D-1 5	The consultants shall be responsible for acquiring/developing and calibration of the models for use in this study themselves. They may make reference to the models developed under the Update on Cumulative Water Quality and Hydrological Effect of Coastal Developments and Upgrading of Assessment Tool (Agreement No. CE 42/97). They may also propose to use other models subject to agreement with EPD.																

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
<b>Model Details - Simulation</b>		
Appendix D-1 1 Model Details - Simulation	The water quality modelling results shall be qualitatively explainable, and any identifiable trend and variations in water quality shall be reproduced by the model. The water quality model shall be able to simulate and take account of the interaction of dissolved oxygen, phytoplankton, organic and inorganic nitrogen, phosphorus, silicate, BOD, temperature, suspended solids, contaminants release of dredged and disposed material, air-water exchange, E. coli and benthic processes. It shall also simulate salinity. Salinity results simulated by hydrodynamic models and water quality models shall be demonstrated to be consistent.	Section 5.5, 5.6.6 and Appendix 5.4b, 5.6 and 5.7 describe and assess the water quality modelling results. Section 5.3.5 describes the model assumptions, parameters and model coverage. Processes for settling, deposition and re-erosion are included in the sediment transport model. A conservative dilution method and WAQ result were used to calculate the concentration of contaminant release and DO depletion respectively.
Appendix D-1 2	The sediment transport module for assessing impacts of sediment loss due to marine works shall include the processes of settling, deposition and re-erosion. The values of the modelling parameters shall be agreed with EPD. Contaminants release and DO depletion during dredging and dumping shall be simulated by the model.	The model covers the study area for this project (i.e. the Northwestern WCZ, Northwestern Supplementary WCZ and Western Buffer WCZ, including the Pearl Estuary and the Dangan (Lema) Channel. Model grid refinement was undertaken around the project area. Agreement of model coverage area with EPD is undergoing. Agreement of grid schematization with EPD is undergoing. Grid size near project such as Tung Chung esturay and Tai Ho Bay is wihtin 75m x 75m. Due to the large coverage area and limitations on model stability constraints, the grid cell resolution at WSRs located furthest away from project ranges mainly between 30 to 150m.
Appendix D-1 3	The thermal model shall be based on the flow field produced by the hydrodynamic model. It shall incorporate the physical processes of thermal/cooled water discharge and abstraction flow, buoyancy effect of the thermal plume, and surface heat exchange. Dispersion of biocides in the discharge shall also be simulated with appropriate decay rates.	
Appendix D-1 4	The models shall at least cover the Hong Kong waters, the Pearl Estuary and the Dangan Channel to incorporate all major influences on hydrodynamic and water quality. A fine grid model may be used for detailed assessment of this study. It shall either be linked to a far field model or form part of a larger model by gradual grid refinement. The coverage of the fine grid model shall be properly designed such that it is remote enough so that the boundary conditions will not be affected by the project. The model coverage area shall be agreed with EPD.	
Appendix D-1 5	In general, grid size at the area affected by the project shall be less than 400 m in open waters and less than 75 m around sensitive receivers. The grid shall also be able to reasonably represent coastal features existing and proposed in the project. The grid schematization shall be agreed with EPD.	
<b>Modelling Assessment</b>		
Appendix D-1 1 Modelling Assessment	The assessment shall include the construction and operational phase of the project. Where appropriate, the assessment shall also include maintenance dredging. Scenarios to be assessed shall cover the baseline condition and scenarios with various different options proposed by the Applicant in order to quantify the environmental impacts and improvements that will be brought about by these options. Corresponding pollution load, bathymetry and coastline shall be adopted in the model set up.	Section 5.3.4 and 5.3.5 describe the model assumptions and scenarios for construction and operational phase modelling. Corresponding pollution load, bathymetry and coastline have been incorporated. Hydrodynamic, sediment transport and thermal modules were run for at least 15 days spring neap cycle in both dry and wet season. Water quality module was run for a complete year incorporating variations.
Appendix D-1 2	Hydrodynamic, sediment transport and thermal modules, where appropriate, shall be run for (with proper model spin up) at least a real sequence of 15 days spring-neap tidal cycle in both the dry season and the wet season.	No emergency outfall is proposed by the project, hence no assessment of temporary discharge via emergency outfall is necessary. Assessment of modelling results at all WSRs was performed to check the compliance with WQOs and international criteria. Changes in hydrodynamic regime and the impact of erosion / sedimentation on ecological receivers was assessed in Section 5.6.7.
Appendix D-1 3	Water quality module shall run for (with proper model spm up) a complete year incorporating monthly variations in Pearl River discharges, solar radiation, water temperature and wind velocity in the operational stage. Construction stage impacts, cooling water discharge and floating refuse and debris entrapment may be assessed by simulating typical spring-neap cycles in the dry and wet seasons.	Section 5.6.7 describes and assesses the impacts on sensitive receivers. Cumulative impacts due to other projects was incorporated and assessed in Section 5.5.7 and 5.6.7.
Appendix D-1 4	For assessing temporary discharges via the emergency outfall, the Applicant shall estimate discharge loading, pattern and duration. The worst case scenario shall include discharge near slack water of neap tide. A period of at least 15 days spring-neap cycle in wet season, but long enough for recovery of the receiving water, shall be simulated. Detailed methodology shall be agreed with EPD.	
Appendix D-1 5	The results shall be assessed for compliance of Water Quality Objectives. Any changes in hydrodynamic regime shall be accessed. Daily erosion / sedimentation rate shall be computed and its ecological impact shall be assessed.	
Appendix D-1 6	The impact on all sensitive receivers shall be assessed.	
Appendix D-1 7	Cumulative impacts due to other projects, activities or pollution sources within a boundary to the agreement of EPD shall also be predicted and quantified.	
<b>Requirements for Assessment of Sewerage and Sewage Treatment Implications</b>		
Appendix E 1	<p>The Applicant shall study and assess the impacts of discharging sewage to the existing/planned sewerage systems in North Lantau. The assessment shall include the following:</p> <p>(i) investigate and review to establish whether there is adequate capacity in the existing, committed and planned sewerage systems, and sewage treatment works in North Lantau for the Project, taking into account the sewage arising from the existing sources, and committed and planned developments within the sewage catchment. The Applicant shall estimate the sewage arising from the residential and non-residential discharges, with flow build-up, within the catchment up to an ultimate development year agreed by the Authority. The Applicant shall quantitatively address the impacts of the Maximum Development Flows on the sewerage system under different development phases. The appropriate treatment level of effluent discharge and the water quality impacts arising from the effluent discharge shall be assessed;</p> <p>(ii)employ the latest version of the computer model “InfoWorks” or equivalent computer model to be agreed by the Director to assess impacts of future development under different phases on the existing and planned sewerage networks in North Lantau;</p> <p>(iii) propose and undertake all required measures to mitigate any forecast shortfalls in the sewerage system as a result of the Project under different development phases and demonstrate the proposed measures would be adequate for the Maximum Development Flows under different development phases. Any proposed sewerage system and/or on-site sewage treatment facility should be designed to meet standards and requirements agreed by DSD and EPD;</p> <p>(iv) identify and quantify the water quality and ecological impacts due to the emergency discharge from on-site sewage treatment plant/pumping stations, if any, and sewer bursting discharge, and to propose adequate measures to mitigate these impacts;</p> <p>(v)identify the appropriate alignment and layouts of the new sewerage to connect to the existing/planned/future sewerage systems in North Lantau, and investigate and assess the technical feasibility of connection (e.g. technical feasibility and details for connection to public sewer and sewage pumping station);</p>	<p>Year-by-year flow build-up provided to Year 2031 has been stated in Section 6.4.1.4. Sewage flow fromCYRSPS and CMRSPS have been reported in Sections 6.7.3.1 and 6.7.2. Impacts from TCMSPS (interim stage) and TCMSPS (ultimate stage) have been identified in Sections 6.7.4 and 6.7.5. Capacity and treatment standard of SHWSTW have been identified in Section 6.7.6. Relevant water quality impact assessment shall refer to EIA Chapter 5 Sections 5.6.5 and 5.6.6.</p> <p>InfoWorks model submitted under EIA Ch 6 on 8 July 2015.</p> <p>New sewers &amp; rising mains for new development areas in TCE and TCW and new sewage pumping stations as proposed mitigation measures have been identified in Section 6.5. Mitigation measures to odour emissions from SPSs have been stated in Sections 6.5.2, 6.5.3, 6.5.4 and 6.7.2. Relevant noise impact assessment and mitigation measures shall refer to EIA Chapter 4 Section 4.6</p> <p>Pipe bursting prevention at TCE during interim and ultimate stage and pipe bursting prevention at TCW have been identified in Section 6.5.4.3. Emergency situations at TCW new SPSs and CMRSPS upgrade part is detailed in Section 6.5.4.7. No emergency overflow provision is for TCW new SPSs and CMRSPS Upgrade. Relevant water quality impact assessment shall refer to EIA Chapter 5 Sections 5.6.5 and 5.6.6. Relevant ecological impact assessment shall refer to EIA Chapter 9 Section 9.7. Emergency Overflow to Drainage Network (TCE SPSs Only) has been detailed in Section 6.5.4.</p> <p>The alignment and layouts of the new sewerage to connect to the existing/planned/future sewerage systems in North Lantau have been illustrated in Figures 6.2, 6.6 and 6.9.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	<p>(vi) set out the design, operation and maintenance requirements and undertake or obtain agreement to undertake the construction and maintenance of any proposed sewerage and sewage treatment facilities, such as pumping station and sewage treatment plant, including electrical and mechanical components to actively monitor, manage and eliminate the problem of septicity incurred in rising mains during low flows and to facilitate maintenance. The above shall be agreed by DSD and EPD. (Twin rising mains for each pumping station should be provided to make sure that the proposed sewage rising mains are maintainable without shutting down and discharging untreated sewage into the natural stream/ drainage channel directly); and</p> <p>(vi) arrange for the timely implementation and commissioning of the mitigation measures. Demonstrate the acceptability of the residual impacts, if any.</p>	<p>Works and O&amp;M Arrangements are detailed in Section 6.6.1.1. Septicity in Rising Mains and provision of twin rising mains have been identified in Section 6.7.8.3.</p> <p>Implementation programme is to be included in EM&amp;A Manual.</p>
<b>Requirements for Assessment of Waste Management Implications</b>		
The assessment of waste management implications shall cover the following:		
Appendix F 1	<p><u>Analysis of Activities and Waste Generation</u></p> <p>(i) The Applicant shall identify the quantity, quality and timing of the wastes arising as a result of the construction and operation activities of the Project based on the sequence and duration of these activities, e.g. any dredged/excavated sediment/mud, construction and demolition (C&amp;D) materials, floating refuse and other wastes which will be generated during construction and/ or operational stages.</p> <p>(ii) The Applicant shall adopt appropriate design, general layout, construction methods and programme to minimise the generation of public fill/inert C&amp;D materials and maximise the use of public fill/inert C&amp;D materials for other construction works.</p>	<p>Quantity, quality and timing of waste generation from construction phase (inert C&amp;DM, non-inert C&amp;DM, excavated marine sediment, chemical waste, general refuse and floating refuse) are summarised in Tables 7.2 and 7.3 respectively. Section 7.3 covers timing of waste generation from construction and operational phases (chemical waste, general refuse, floating refuse and sludge).</p> <p>Fill balance is included in Tables 7.7and 7.12. Sections 7.4.1.8 - 7.4.1.13 described efforts to be made in minimising off-site disposal of C&amp;D materials and maximise reuse within the project.</p> <p>Maximise the earthworks balance and minimise the volumes of fill that would be required to be imparted to and exported from the site</p> <p>Minimise the extent of excavation and to ensure that as much as the inert C&amp;D material generated by the project will be reused on-site as practicable.</p> <p>Relevant construction activities and construction programme have been carefully planned and developed.</p>
Appendix F 2	<p><u>Proposal for Waste Management</u></p> <p>(i) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation, on-site or off-site re-use and recycling shall be fully evaluated. Measures that can be taken in the planning and design stages e.g. by modifying the design approach and in the construction stage for maximising waste reduction shall be separately considered.</p> <p>The Applicant shall consider alternative proj ect designs/measures to avoid/minimize floating refuse accumulation/entrapment and measures/proposals for the potential floating refuse problem, e.g. streamlining the shoreline design; measures to improve the tidal flushing capacity; alternative seawall design to facilitate floating refuse collection; and regular collection of the floating refuse along the shoreline. Regarding the potential trapping of floating refuse along the shoreline of the Proj ect, the Applicant shall estimate as far as practicable the amount of floating refuse to be found/trapped along the shoreline of the Proj ect in construction stage and after the completion of the Project. The Applicant shall develop an effective plan/design to avoid/minimize the trapping of floating refuse. If floating refuse is identified and needs to be dealt with, the Applicant shall propose appropriate measures to deal with this floating refuse in a proper and acceptable manner e.g. to collect, recycle, reuse, store, transport and dispose of.</p> <p>(ii) After considering the opportunities for reducing waste generation and maximising re-use, the types and quantities of wastes required to be disposed of as a consequence shall be estimated and the disposal methods/options for each type of wastes shall be described in detail. The disposal methods/options recommended for each type of wastes shall take into account the result of the assessment in (iv) below.</p> <p>(iii) The EIA report shall also state clearly the transportation routings and the frequency of the trucks/vessels involved, any barging point or conveyor system to be used, the stockpiling areas and the disposal outlets for the wastes identified; and</p> <p>(iv) The impact caused by handling (including stockpiling, labelling, packaging and storage), collection, transportation and re-use/disposal of wastes shall be addressed in detail and appropriate mitigation measures shall be proposed. This assessment shall cover the following areas:</p> <ul style="list-style-type: none"><li>- potential hazard;</li><li>- air and odour emissions;</li><li>- noise;</li><li>- wastewater discharge; and</li><li>- public transport.</li></ul>	<p>The opportunities for reducing waste generation, on-site or off-site re-use and recycling are fully evaluated during constructino and operational phases and discussed in Sections 7.3.2 and 7.3.3. Measures which can be taken in planning and design stages are summarised in Section 7.4.</p> <p>Details are discussed in Sections 7.3.2.54 - 7.3.2.55 (construction phase) and Sections 7.3.3.15 - 7.3.3.17. (operational phase).</p> <p>The types and quantities of wastes required to be disposed of are estimated and the disposal methods are summarised in Table 7.13. Sectiond 7.3.2 and 7.3.3 have detailed disposal methods/options for each type of wastes during construction phase and operational phase respectively.</p> <p>Transportation Routing and Frequency of Truck/ Vessels are summarised in Section 7.3.2.19 (construction phase).</p> <p>The impacts caused by handling, collection, transportation and re-use/disposal of wastes assessed throughout Sections 10.4.1 and 10.4.2:</p> <p>Construction Phase:</p> <p>Sections 7.3.2.5 - 7.3.2.18 assess the impact caused by storage, handling, transport and disposal of inert and non-inert C&amp;D waste</p> <p>Section 7.3.2.44 - 7.3.2.48 assess the impact caused by storage, handling, transport and disposal of chemical waste</p> <p>Section 7.3.2.49 - 7.3.5.53 - assess the impact caused by storage, handling, transport and disposal of general refuse</p> <p>Section 7.3.2.54 - 7.3.2.55 - assess the impact caused by handling and disposal of floating refuse</p> <p>Operation Phase:</p> <p>Section 7.3.3.2 - 7.3.3.4 – assess the impact caused by handling, transport and disposal of Municipal Solid Waste</p> <p>Section 7.3.3.5 - 7.3.3.6 – assess the impact caused by storage, handling and disposal of Waste Collection and Disposal</p> <p>Section 7.3.3.7 - 7.3.3.9 – assess the impact caused by storage, handling, transport and disposal of Waste Recycling</p> <p>Section 7.3.3.10 - 7.3.3.14 – assess the impact caused by storage, handling and disposal of chemical waste</p> <p>Section 7.3.3.15 - 7.3.3.17 – assess the impact caused by handling and disposal of floating refuse</p> <p>Section 7.4 described mitigation measures against impacts associated with waste management include:</p> <ul style="list-style-type: none"><li>Good site practice</li><li>Implement Waste Management Plan</li><li>Employment of licensed collector to transport and disposal of wastes</li><li>Carefully handle/store waste in enclosed bins</li></ul>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	(v) In addition to the above, the EIA report shall also identify practicable means of avoiding illegal dumping and landfilling on farmlands and riverbanks.	Sections 7.4.1 and 7.4.2 mention the practicable means of avoiding illegal dumping and landfilling during construction and operational phase.
Appendix F 3	<p><u>Dredging/ Excavation, Filling and Dumping</u></p> <p>(i) The Applicant shall identify and quantify all dredging/ excavation, dredged/excavated sediment/mud transportation and disposal activities and requirements. Potential dumping ground to be involved shall also be identified. Appropriate field investigation, sampling and chemical and biological laboratory tests to characterise the sediment/mud concerned shall be conducted. The ranges of parameters to be analysed; the number, type and methods of sampling; sample preservation; chemical and biological laboratory test methods to be used shall be agreed with the Director (with reference to section 4.4.2(c) of the TM) prior to the commencement of the tests and document in the EIA report for consideration. The categories of sediment/mud which are to be disposed of in accordance with a permit granted under the Dumping at Sea Ordinance (DASO) shall be identified by both chemical and biological tests and their quantities shall be estimated. If the presence of any serious contamination of sediment/mud which requires special treatment/disposal is confirmed, the Applicant shall identify the most appropriate treatment and/or disposal arrangement and demonstrate its feasibility. The Applicant shall provide supporting documents, such as agreement by the relevant facilities management authorities, to demonstrate the viability of any treatment/disposal plan.</p> <p>(ii) The Applicant shall identify and evaluate the best practical dredging/excavation methods to minimise dredging/excavation and dumping requirements based on the criterion that existing sediment/mud shall be left in place and not to be disturbed as far as possible.</p>	<p>Dredging/ excavation, fill extraction, filling, reclamation, sediment/mud transportation and disposal activities and requirements identified and quantified under Sections 7.3.2.2 to 7.3.2.61.</p> <p>Potential fill source and dumping ground identified in Table 7.12.</p> <p>Sections 7.3.2.25 to 7.3.2.36 described contaminated soil and marine sediment sampling and testing and estimated dredge quantity for each sediment category for other marine sediment excavation works.</p> <p>Treatment and disposal arrangement for contaminated sediments described in 7.4.1.15 to 7.4.1.17; feasibility is considered through review of previous local projects.</p> <p>Table 7.9 estimated quantities of land-based sediment to be generated.</p> <p>Sections 7.4.1.15 to 7.4.1.17 – description of treatment/recycling methods of excavated marine sediments.</p> <p>Section 7.3.2.9 – site formation will be carried out by excavation methods</p> <p>Section 7.4.1.3 – summary of waste avoidance / reduction</p>
<b>Requirements for Land Contamination Assessment</b>		
Appendix G 1	<p>If any contaminated land uses as stated in sections 3.1 and 3.2 of Annex 19 of the TM is identified, the Applicant shall carry out the land contamination assessment as detailed below and propose measures to avoid disposal:</p> <p>(i) The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issues as stated in sections 3.1 and 3.2 of Annex 19 of the TM.</p> <p>(ii) The Applicant shall identify the potential land contamination site(s) within the entire Study Area (Appendix A refers) and, if any, within the boundaries of all associated areas (e.g. work areas) of the Project</p> <p>(iii) The Applicant shall provide a clear and detailed account of the present land uses (including description of the activities, chemicals and hazardous substances handled, with clear indication of their storage and location, by reference to a site layout plan) and a complete past land use history, in chronological order, in relation to possible land contamination (including accident records and change of land use(s) and the like).</p> <p>(iv) During the course of the EIA study, the Applicant shall submit a Contamination Assessment Plan (CAP) to the Director for endorsement prior to conducting an actual contamination impact assessment of the land or site(s). The CAP shall include proposal with details on representative sampling and analysis required to determine the nature and the extent of the contamination of the land or site(s). Alternatively, the Applicant may refer to other previously agreed and still relevant and valid CAP(s) for the concerned site(s).</p> <p>(v) Based on the endorsed CAP, the Applicant shall conduct a land contamination impact assessment and submit a Contamination Assessment Report (CAR) to the Director for endorsement. If land contamination is confirmed, a Remediation Action Plan (RAP) to formulate viable remedial measures with supporting documents, such as agreement by the relevant facilities management authorities, shall be submitted to the Director for approval. The Applicant shall then clean up the contaminated land or site(s) according to the approved RAP, and a Remediation Report (RR) to demonstrate adequate clean-up should be prepared and submitted to the Director for endorsement prior to the commencement of any development or redevelopment works within theStudy Area. The CAP, CAR and RAP shall be documented in the EIA report.</p> <p>(vi) If there are potential contaminated sites which are inaccessible for conducting sampling and analysis during the course of the EIA study, e.g. due to site access problem, the Applicant’s CAP shall include:</p> <p>(a) a review of the available and relevant information;</p> <p>(b) an initial contamination evaluation of these sites and possible remediation methods;</p> <p>(c) a confirmation of whether the contamination problem at these sites would be surmountable;</p> <p>(d) a sampling and analysis proposal which shall aim at determining the nature and the extent of the contamination of these sites; and</p> <p>(e) where appropriate, a schedule of submission of revised or supplementary CAP, CAR, RAP and RR as soon as these sites become accessible.</p>	<p>Potential contaminated land uses were identified on the areas where construction activities will be carried out on part of Tung Chung west, the land contamination assessment and proposed measures are provided in Ch.8.</p> <p>Sections 3.1 and 3.2 of Annex 19 of the TM followed. CAP is included in the Ch.8 and upon availability of areas for SI, CAR and RAP, if needed, will be prepared as mentioned in Sections 8.4 and 8.5.</p> <p>Potential land contamination sites have been identified in Section 8.3.</p> <p>Present land use (including description of the activities, chemicals and hazardous substances handled, storage and location, by reference to a site layout plan) described in Section 8.2.3.</p> <p>Past land uses history in relation to possible land contamination (including accident records and change of land use(s) from aerial photos) described in Section 8.2.1. Records received from relevant government departments, historical aerial photographs are taken into account.</p> <p>CAP has been submitted to and agreed by DEP.</p> <p>Details on representative sampling and analysis required to determine the nature and the extent of the contamination of the potential contaminated areas are included in CAP as shown in Appendix 8.1.</p> <p>As some of the potential contaminated sites are inaccessible and still in operation, site investigation (SI) works cannot be undertaken at this stage. Further site reconnaissance will be conducted for the inaccessible areas at a later stage.</p> <p>Subject to the reconnaissance findings, a supplementary CAP (if necessary) may be prepared and submitted to EPD for endorsement.</p> <p>After completion of SI, CAR and RAP will be prepared and submitted to EPD as mentioned in Sections 8.5.</p> <p>CAP is included in EIA; CAR and RAP will not be included in the EIA.</p> <p>It is determined that potential contaminated sites are inaccessible for preparing sampling and analysis during the course of the EIA study. The information has been reviewed, possible remediation methods, confirmation of whether the contamination problem would be surmountable and sampling and analysis proposal are included in CAP as shown in Appendix 8.1.</p> <p>Subject to the reconnaissance findings, a supplementary CAP for additional SI (if necessary) may be prepared and submitted to EPD for endorsement. After completion of SI, CAR and RAP will be prepared and submitted to EPD as mentioned in Sections 8.4 and 8.5.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Requirements for Ecological Impact Assessment (Terrestrial and Marine)		
Appendix H 1	<p>The ecological impact assessment shall include the following:</p> <p>The Applicant shall examine the flora, fauna and other components of the ecological habitats within the assessment area. The aim shall be to protect, maintain or rehabilitate the natural environment. In particular, the Project shall avoid or minimise impacts on recognised sites of conservation importance [including but not limited to San Tau Beach SSSI, Tai Ho Stream Site of Special Scientific Interest, Tung Chung Ecologically Important Stream (EIS), Wong Lung Hang EIS, the Lantau (North) Extension Country Park and the potential Marine Park at The Brothers] and other ecologically sensitive areas (including but not limited to woodlands, natural streams, marshes, mudflats, seagrass beds, horseshoe crabs breeding and nursery grounds). The assessment shall identify and quantify as far as possible the potential ecological impacts associated with the Project, both directly by physical disturbance and indirectly by change of water quality and hydrodynamic regime to important habitats and the associated wildlife groups/species.</p>	<p>The flora, fauna and other components of the ecological habitats within the assessment area have been detailed in Sections 9.3 - 9.4. The aim has been stated in Section 9.1.1. Impacts on recognised sites of conservation importance and other ecologically sensitive areas have been avoided or minimised. Details can be referred to Sections 9.6.5 and 9.8. Potential ecological impacts associated with the Project have been identified in Section 9.5.</p>
Appendix H 2	<p>The assessment shall include the following major tasks:</p> <p>(i) review the findings of relevant studies/surveys and collate the available information regarding the ecological characters of the assessment area, in particular the Tung Chung Stream Valley and information on Chinese White Dolphins such as their occurrence, distribution, abundance and the detected declining trends in dolphin abundance in the past decade;</p> <p>(ii) evaluate the information collected, identify any information gap relating to the assessment of potential ecological impact, and determine the ecological field surveys and investigations that are needed for an impact assessment as required in the following sections;</p> <p>(iii) carry out necessary ecological field surveys with a duration of at least nine months, and investigation to verify the information collected, fill the information gaps as identified in (ii) above, and to fulfill the objectives of the EIA study. The field surveys shall cover but not be limited to flora, fauna and any other habitats/species of conservation importance, and shall include subtidal and intertidal survey, benthic community survey, and underwater dive survey for coral communities;</p> <p>(iv) establish the ecological profile of the assessment area based on information collected in the tasks mentioned in sub-section (i) to (iii) above, and describe the characteristics of each habitat found. The data set should be comprehensive and representative covering the variations of the wet and dry seasons, and is up to date and valid for the purpose of this assessment. Major information to be provided shall include:</p> <p>(a) description of the physical environment, including all recognized sites of conservation importance and ecologically sensitive areas;</p> <p>(b) habitats maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats and species of conservation interest in the assessment area;</p> <p>(c) ecological characteristics of each habitat type such as size, vegetation and/or substrate type, species present, dominant species found, species richness and abundance of major taxa groups, community structure, seasonal patterns, ecological value, inter-dependence of the habitats and species, and presence of any features of ecological importance;</p> <p>(d) representative colour photographs of each habitat type and any important ecological features identified;</p> <p>(e) species found that are rare, endangered and/or listed under local legislation, international conventions for conservation of wildlife/habitats or Red Data Books;</p> <p>(v) investigate and describe the existing wildlife uses of various habitats with special attention to those wildlife groups and habitats with conservation interest, including but not limited to the following:</p> <p>- woodlands;</p> <p>- Tung Chung EIS, Wong Lung Hang EIS, Tai Ho Stream SSSI and any other natural stream courses (including their estuaries and tributaries);</p> <p>- coastal/marine waters;</p> <p>- intertidial shores/ subtidal shores/ coral communities;</p> <p>- mangroves, mudflats and seagrass beds at Tung Chung Bay, San Tau Beach SSSI and Tai Ho Wan;</p> <p>- wetlands (including freshwater and brackish-water marshes);</p> <p>- benthic communities;</p> <p>- breeding and nursery grounds for horseshoe crabs (e.g. Tachypleus tridentatus and Carcinoscorpius rotundicauda);</p> <p>- Chinese White Dolphins (including both day-time and night-time activities);</p> <p>- vertebrates, including avifauna (e.g. Egretta eulophotes), mammals and herpetofauna (e.g. Liuixalus romeri, Paramesotriton hongkongensis, Amolops ricketti and Xenophrys brachykolos);</p> <p>- stream/estuarine fauna, in particular fish species of conservation interest at Tung Chung EIS, Tung Chung Bay, Wong Lung Hang EIS and Tai Ho Stream SSSI (e.g. Acrossocheilus beijiangensis, Anguilla marmorata, Anguilla japonica, Butis butis, Syngnathoides biaculeatus, S. schlegeli, Plecoglossus altivelis and Glossogobius olivaceus);</p> <p>- macroinvertebrates, including butterflies (e.g. Troides helena, Troides aecus, Aeromachus jhora, Leptotes plinius, Tajuria cippus) and odonates; and</p> <p>- any other habitats and wildlife groups identified as having special conservation interest by the EIA study.</p> <p>(vi) describe recognised sites of conservation importance within and in the vicinity of the assessment area, including the San Tau Beach SSSI, Tai Ho Stream SSSI, Pok To Yan and Por Kai Shan SSSI, Tung Chung EIS, Wong Lung Hang EIS, the existing Sha Chau and Lung Kwu Chau Marine Park and the proposed Marine Park at The Brothers and Southwest Lantau and the Sokos, and assess whether these sites will be affected by the Project;</p>	<p>Available information and findings of relevant studies/surveys have been stated in Section 9.4. Those regarding Chinese White Dolphins have been described in Sections 9.4.2 and 9.4.6, whereas information on Tung Chung Stream Valley is detailed in Section 9.4.3.</p> <p>Information obtained from literature review evaluated and information gaps identified in Sections 9.3 and 9.4.</p> <p>Ecological field surveys covering flora, fauna, habitats/ species of conservation interest, including subtidal and intertidal survey, benthic community survey, and underwater dive survey for coral communities, are completed to fill the data gap and methodology and results presented in Section 9.3.</p> <p>The ecological profile of the assessment area has been detailed in Sections 9.4.1 - 9.4.11 and Figure 9.7c.</p> <p>Description of recognised sites of conservation importance (i.e. Pok To Yan and Por Kai Shan SSSI, Lantau North (Extension) Country Park, San TauBeach SSSI, Tai Ho Stream SSSI, etc) provided in Sections 9.4.1 - 9.4.3.</p> <p>Habitat maps are illustrated in Figures 9.4a - 9.7b.</p> <p>Ecological characteristics such as floral community and floral species of conservation interest of each habitat type provided in Sections 9.4. Description of faunal community and faunal species of conservation importance in each habitat are included.</p> <p>The representative colour photographs are presented in Appendices 9.1a and 9.1b.</p> <p>The concerned species have been detailed in Sections 9.4.4 - 9.4.11.</p> <p>Investigation and description of woodlands is described in Sections 9.4.3, 9.4.4, 9.4.8, 9.4.10, 9.8.11.</p> <p>Investigation and description of Tung Chung EIS, Wong Lung Hang EIS, Tai Ho Stream SSSI and any other natural stream is described in Sections 9.4.3, 9.4.4, 9.4.8, 9.4.10 and 9.8.11.</p> <p>Investigation and description of coastal/marine waters is described in Section 9.4.3.</p> <p>Investigation and description of intertidial shores/ subtidal shores/ coral communitieis described in Sections 9.4.3-9.4.4.</p> <p>Investigation and description of mangroves, mudflates and seagrass beds is described in Sections 9.4.3, 9.4.4, 9.4.10 and 9.8.11.</p> <p>Investigation and description of wetlands is described in Sections 9.4.4, 9.4.8, 9.4.10 and 9.8.11.</p> <p>Investigation and description of benthic communities is described in Section 9.4.4.</p> <p>Investigation and description of breeding and nursery grounds for horseshoe crab is described in Section 9.4.9.</p> <p>Investigation and description of Chinese White Dolphin is described in Section 9.4.6.</p> <p>Investigation and description of Marine benthic communities is described in Sections 9.4.8 - 9.4.9.</p> <p>Investigation and description of estuarine fauna is described in Sections 9.4.8 and 9.4.9.</p> <p>Investigation and description of butterflies is described in Section 9.4.8.</p> <p>Investigation and description of any other habitats and wildlife groups identified as having special conservation interest by the EIA study is described in Section 9.4.4.</p> <p>Description of recognised sites of conservation importance within and in the vicinity of the assessment area provided in Sections 9.4.2, 9.6.5 and 9.7.5.</p>

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
	<p>(vii) using suitable methodologies (including but not limited to those adopted in other relevant EIA studies in Hong Kong), and considering also any works activities from other projects reasonably likely to occur at the time, identify and quantify as far as possible any direct (e.g. loss of habitats due to various elements such as reclamation and other associated works of the Project), indirect (e.g. changes in water qualities, hydrodynamics properties, hydrology, noise and other disturbance generated by the construction and operational activities etc), on-site, off-site, primary, secondary and cumulative ecological impacts on the wildlife groups and habitats identified such as direct loss of habitats, potential diversion or modification of stream courses, disturbance to wildlife, destruction of habitats, reduction of species abundance/diversity, loss of feeding and breeding grounds, reduction of ecological carrying capacity and habitat fragmentation, in particular the following:</p> <p>(a) habitat loss and disturbance to the Tung Chung Stream Valley which encompasses diverse habitat types and supports diverse community of fauna and flora;</p> <p>(b) habitat loss and disturbance to the benthic communities, subtidal and intertidal habitats especially the mudflats, seagrass beds and horseshoe crabs breeding and nursery grounds within Tung Chung Bay, Tung Chung Stream, San Tau Beach SSSI and Tai Ho Wan due to reclamation, possible dredging operation, construction of seawall, sewage facilities and associated outfalls, river park, as well as dechannelisation works, etc.;</p> <p>(c) impacts to subtidal and intertidal organisms especially horseshoe crabs, seagrasses, corals and stream/estuarine fauna of conservation interest during construction and operation phases due to potential changes in water quality (e.g. changes in suspended solid level, dissolved oxygen and nutrients), hydrodynamics properties and sedimentation rates;</p> <p>(d) risk of bioaccumulation of toxic contaminants released from the disturbed or dredged sediment, oil and chemical spillage from vessel/vehicle accidents to marine organisms especially Chinese White Dolphins;</p> <p>(e) impacts to Chinese White Dolphins due to reclamation, in particular the direct and permanent loss of dolphin habitat and reduction in ecological carrying capacity for dolphins;</p> <p>(f) impacts to Chinese White Dolphins associated with possible changes in marine traffic volume during construction and operation phases (especially those associated with the marina), in particular behavioral changes and increased risk of vessel collision to dolphins inhabiting the potential Marine Park at The Brothers;</p> <p>(g) disturbance to Chinese White Dolphins associated with underwater noise, including pilling, noise generated from additional work barges and vessels during the construction phase, and any long term increase in underwater noise disturbance caused by the possible changes in marine traffic volume during the operation phase;</p> <p>(h) impacts to Chinese White Dolphins (and also Indo-Pacific Finless Porpoises depending on the locations of fill source and disposal sites) associated with dredging, fill extraction, filling, transportation and disposal of dredged sediments within Hong Kong</p> <p>(i) impacts to the proposed Marine Park at The Brothers which is regarded as a core area for Chinese White Dolphins in Hong Kong, especially impacts of changes in water quality/hydrodynamics properties, changes in marine traffic volume and increase in underwater noise disturbance during construction and operation phases;</p> <p>(j) impacts of increase in marine traffic and underwater noise (especially those associated with the marina), reclamation and changes in water quality/hydrodynamics properties resulted from the Project on the functionality of the proposed Marine Park at The Brothers as the major dolphin protected area;</p> <p>(k) ) impacts from drainage system including construction and operation of polders, dual-purpose flood attenuation and stormwater treatment ponds, and village sewerage system, if any, on the ecology of Tung Chung Stream, e.g. habitat fragmentation and water pollution;</p> <p>(l) impacts from proposed access roads/haul roads, if any; and</p> <p>(m) cumulative impacts due to other planned and committed concurrent developments projects (e.g. Expansion of Hong Kong International Airport into a Three-Runway System, Hong Kong-Zhuhai-Macao Bridge – Hong Kong Boundary Crossing Facilities &amp; Hong Kong Link Road, Tuen Mun – Chek Lap Kok Link, Lantau Logistic Park, Sediment Disposal Facility in South of Brothers , Three Potential Nearshore Reclamation Sites in the Western Waters of Hong Kong)at or near the Project area. For cumulative impacts related to Chinese White Dolphin, the assessment should take into account existing threats to them in North Lantau Waters and the issues to be assessed shall be agreed with the Director.</p> <p>(viii) evaluate ecological impact based on the best and latest information available during the course of the EIA study, using quantitative approach as far as practicable and covering construction and operational phases of the Project;</p> <p>(ix) recommend possible and practicable mitigation measures such as alternative design and configuration of the Project, designation of exclusion areas and low speed zones for marine vessels and modification/change of construction methods to avoid, minimise and/or compensate for the adverse ecological impacts identified during construction and operation of the Project, including but not limited to:</p> <p>(a) adopting a development option that requires no reclamation in Tung Chung Bay;</p> <p>(b) adopting a development option that excludes large-scale development in the Tung Chung Stream Valley;</p> <p>(c) adopting a development option that excludes the marina to avoid its ecological impact, if evaluated to be significant;</p> <p>(d) programming of construction activities to minimize impacts to marine organisms especially Chinese White Dolphins (e.g. alternative land transport of construction materials to reduce marine traffic, limiting the number of work barges and vessels per day during construction, avoid overlapping with other planned and committed concurrent development projects in the vicinity such as those specified in Section 2 (vii) (m) above).</p> <p>(x) evaluate the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, resource requirement, subsequent management and maintenance of such measures;</p> <p>(xi) determine and quantify as far as possible the residual ecological impacts after implementation of the proposed mitigation measures;</p> <p>(xii) evaluate the significance and acceptability of the residual ecological impacts using well-defined criteria in Annex 8 of the TM and determine if off-site mitigation measures are necessary to mitigate the residual impacts and if affirmative, guidelines and requirements laid down in Annex 16 of the TM should be followed; and</p> <p>(xiii) review the need for and recommend any ecological monitoring programme required.</p>	<p>Impact evaluation for terrestrial and marine ecology has been detailed in Sections 9.6 - 9.7.</p> <p>Habitat loss and disturbance to the Tung Chung Stream Valley are described in Sections 9.6.1 - 9.6.2.</p> <p>Habitat loss and disturbance to marine habitats are described in Sections 9.7.1 to 9.7.5.</p> <p>Impacts to subtidal and intertidal organisms have been detailed in Section 9.7.1 and 9.7.2. Impacts to stream/estuarine fauna of conservation interest have been described in Section 9.6.5.</p> <p>The risk of bioaccumulation of toxic contaminant is described in Sections 9.7.2, 9.7.4 and 9.7.6.</p> <p>Impacts to Chinese White Dolphins due to reclamation is described in Sections 9.7.1, 9.7.3, 9.7.4 and 9.7.6.</p> <p>Impacts to Chinese White Dolphins associated with possible changes in marine traffic volume during construction and operation phases is described in Sections 9.7.2, 9.7.4 and 9.7.6.</p> <p>Underwater noise disturbance is described in Sections 9.7.2, 9.7.4 and 9.7.6.</p> <p>Impacts to Chinese White Dolphins is described in Sections 9.7.2 and 9.7.6.</p> <p>Impacts to the proposed Marine Park at The Brothers is detailed in Sections 9.9.3.</p> <p>The associated impacts have been described in Section 9.9.2.</p> <p>Impacts from drainage system is described in Section 9.6.1.</p> <p>Impacts from proposed access roads/haul roads are detailed in Section 9.6.1 and 9.6.4. Cumulative impacts are described in Section 9.9.</p> <p>Impact evaluation has been detailed in Sections 9.6 - 9.7.</p> <p>The possible and practicable mitigation measures have been recommended in Section 9.8.</p> <p>The total reclamation size under this Project has also been significantly reduced after the reclamation inside Tung Chung Bay was removed. Details are presented in Sections 9.8.1 - 9.8.2. This can be referred to Section 9.8.1. Impact for Marina was evaluated as insignificant and detailed in Section 9.7.4. Including eco-features within the marina has been considered as a marine enhancement measure and is detailed in Section 9.12.3. Impact minimization is included in Section 9.8.2.</p> <p>The feasibility and effectiveness of the recommended mitigation measures have been evaluated in Sections 9.8.3 and 9.8.4. The Environmental Mitigation Implementation Schedule has been provided in the EM&amp;A Manual. Residual ecological impacts after implementation of the proposed mitigation measures is included in Section 9.10. The significance and acceptability of the residual ecological impacts is stated Section 9.10.</p> <p>The need for and recommend any ecological monitoring programme required has been reviewed and discussed in Section 9.11.</p>



Sections of the EIA Study Brief	Specific Requirements	Compliance Check
<b>Requirements for Fisheries Impact Assessment</b>		
Appendix I 1	Existing information regarding the assessment area shall be reviewed. Based on the review results, the assessment shall identify data gap and determine if there is any need for field surveys to collect adequate baseline information. If field surveys are considered necessary, the assessment shall recommend appropriate methodology, duration and timing for such surveys.	Description of existing fisheries baseline conditions have been detailed in Section 10.4. The methodology, duration and timing for fisheries verification surveys have been provided in Appendix 10.1.
Appendix I 2	The fisheries impact assessment shall cover any potential short-term and long-term impacts on capture and culture fisheries during the construction and operation phases of the Project.	Potential impacts in both construction phase and operation phase have been identified in Sections 10.5 - 10.7.
Appendix I 3	<p>The fisheries impact assessment shall provide the following information:</p> <p>(i) description of the physical environmental background;</p> <p>(ii) description and quantification of the existing fisheries activities;</p> <p>(iii) description and quantification of the existing fisheries resources;</p> <p>(iv) identification of parameters (e.g. water quality parameters) and areas of fisheries importance;</p> <p>(v) prediction and evaluation of any direct/indirect, onsite/offsite impacts on fisheries (such as potential loss or disturbance of fishing grounds, fisheries habitats, spawning or nursery grounds water quality deterioration at aquaculture sites and artificial reefs and hydrological disruptions) caused by the project (including those associated with marina);</p> <p>(vi) evaluation of cumulative impacts on fisheries due to other planned and committed concurrent development projects at or near the assessment area;</p> <p>(vii) proposals of feasible, practicable and effective mitigation measures with details on justification, description of and programme feasibility as well as staff and financial implications including those related to subsequent management and maintenance requirements of the measures; and</p> <p>(viii) review for the need of monitoring during the construction and operation phases of the Project and, if necessary, proposal for a monitoring and audit programme.</p>	<p>Description of the physical environmental background has been discussed in Section 10.4.1.</p> <p>Description and quantification of the existing fisheries activities are presented in Sections 10.4.2 - 10.4.3.</p> <p>Description and quantification of the existing fisheries resources are discussed in Sections 10.4.1 - 10.4.3.</p> <p>Parameters which may affect fisheries are described in Sections 10.4.2 - 10.4.3.</p> <p>Evaluation of impacts on fisheries are included in Sections 10.5 - 10.6.</p> <p>Cumulative impacts have been evaluated in Section 10.7.</p> <p>Mitigation measures are proposed in Section 10.8.</p> <p>The need of monitoring during the construction and operation phases of the Project has been discussed in Section 10.9.</p>
<b>Requirements for Landscape and Visual Impact Assessment</b>		
Appendix J 1	The Applicant shall review relevant outline development plan(s), outline zoning plan(s), layout plan(s) and/or studies which may identify areas of high landscape value, open space, amenity area, conservation area and green belt designations. Any guidelines on landscape and urban design strategies and frameworks that may affect the appreciation of the Project shall also be reviewed. The aim is to gain an insight to the future outlook of the area affected so as to assess whether the Project can fit into the surrounding setting. Any conflict with the statutory town plan(s) shall be highlighted and appropriate follow-up action shall be recommended. A system shall be derived for judging the landscape and visual impact significance as required under the Annexes 10 and 18 of the EIAO-TM and the EIAO Guidance Note No. 8/2010 “Preparation of Landscape and Visual Impact Assessment under the EIAO”. Cumulative landscape and visual impacts of the Project with other existing, committed and planned developments in the assessment area shall be assessed.	In Section 11.1, related documents and information have been reviewed including Annexes 10 and 18 of the EIAO-TM and the EIAO Guidance Note No. 8/2010.
Appendix J 2	The Applicant shall assess the landscape impact of the Project. The Applicant shall describe, appraise, analyse and evaluate the existing and planned landscape resources and characters of the assessment area. Annotated oblique aerial photographs and plans of suitable scale showing the baseline landscape resources and landscape character areas and mapping of impact assessment shall be extensively used to present the findings of impact assessment. Descriptive text shall provide a concise and reasoned judgment from a landscape point of view. The assessment shall be particularly focused on the sensitivity of the landscape framework and its ability to accommodate change. The Applicant shall identify the degree of compatibility of the Project with the existing and planned landscape setting. The landscape impact assessment shall quantify potential landscape impact as far as possible, so as to illustrate the significance of such impact arising from the Project. Clear mapping of the landscape impact is required. Where applicable, broad brush and vegetation survey shall be carried out and the impacts on existing trees and vegetation with conservation interest shall be addressed.	LR plan and photos are shown in Figure 11.2a to 11.2k while LCA plan and photos are illustrated in Figure 11.3a to 11.3i. Landscape baseline study including broad brush tree survey is discussed in Section 11.5 and 11.6.
Appendix J 3	<p>The Applicant shall assess the visual impact of the Project. Clear illustrations including mapping of visual impact is required. Descriptive text shall provide a concise and reasoned judgment from a visual point of view. Cumulative visual impact of the Project with other existing, committed and planned developments in the assessment area shall be assessed. The assessment shall include the following:</p> <p>(i) identification and plotting of visual envelope of the Project;</p> <p>(ii) identification of the key groups of existing and planned sensitive receivers within the visual envelope and their views at sea level, ground level and elevated vantage points;</p> <p>(iii) description of the visual compatibility of the Project with the surrounding and the existing and planned setting, and its obstruction and interference with the key views within the visual envelope; and</p> <p>(iv) description of the severity of visual impact in terms of nature, distance and number of sensitive receivers. The visual impact of the Project with and without mitigation measures shall be included and illustrated so as to demonstrate the effectiveness of the proposed mitigation measures across time.</p> <p>(v) evaluations and explanations of factors considered in arriving the significance thresholds of visual impact.</p>	<p>Visual Envelop is shown in Figure 11.4a.</p> <p>Visual Sensitive Receivers Plans are shown in Figure 11.4b to 11.4d.</p> <p>Visual compatibility is discussed in Table 11.20.</p> <p>Details showing VSR nature, distance, number etc. are listed in Table 11.19. Visual impacts have been evaluated for comparison before adopting mitigation or compensatory measures in Table 11.21.</p>
Appendix J 4	The Applicant shall evaluate the merits of preservation in totality, in parts or total destruction of existing landscape and the establishment of a new landscape character area. In addition, alternative location, site layout, development options, design and construction methods that would avoid or reduce the identified landscape and visual impacts shall be evaluated for comparison before adopting other mitigation or compensatory measures to alleviate the impacts. The mitigation measures proposed shall not only be concerned with damage reduction but shall also include consideration of potential enhancement of existing landscape and visual quality. The Applicant shall recommend mitigation measures to minimise adverse effects identified above, including provision of a landscape design.	Landscape and visual impacts have been evaluated for comparison before adopting mitigation or compensatory measures in Tables 11.16, 11.17 and 11.21.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix J 5	The mitigation measures shall include but not limited to preservation of vegetation, and natural landscape resources, transplanting of mature trees, provision of screen planting, re-vegetation of disturbed land, woodland restoration, wetland and water pond restoration, protection of stream courses, landscape enhancement or rehabilitation of existing drainage channel, landscape reinstatement for temporary construction work, compensatory planting using native trees and other plant species, setback for landscape buffer at the interface between the potential residential development area and area with high landscape sensitivity at Tung Chung West, protection of existing water table for agricultural land, provisioning/reprovisioning of amenity areas and open spaces, design of structures, provision of finishes to structures, colour scheme and texture of material used and any measures to mitigate the impact on existing and planned land uses and sensitive receivers. Parties shall be identified for the ongoing management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the operational phase of the Project. A practical programme for the implementation of the recommended measures shall be provided.	Various mitigation measures have been considered. Management and maintenance parties are identified with the related mitigation measures in Table 11.15.
Appendix J 6	Annotated illustration such as coloured perspective drawings, plans and section/elevation diagrams, oblique aerial photographs, photographs taken at vantage points, and computer-generated photomontage shall be adopted to illustrate the landscape and visual impacts of the Project. The landscape and visual impacts of the Project with and without mitigation measures from representative viewpoints, particularly from views of the most severely affected visually sensitive receivers (i.e. worst-case scenario), shall be properly illustrated in existing and planned setting at four stages (existing condition, Day 1 with no mitigation measures, Day 1 with mitigation measures and Year 10 with mitigation measures) by computer-generated photomontage so as to demonstrate the effectiveness of the proposed mitigation measures. Computer graphics shall be compatible with Microstation DGN file format. The Applicant shall record the technical details in preparing the illustration, which may need to be submitted for verification of the accuracy of the illustration.	Annotated VSR photos are shown in Figure 11.4e to 11.4aa. Photomontages illustrated in existing and planned setting at four stages are shown in Figure 11.6a to 11.6bb.
<b>Requirements for Cultural Heritage Impact Assessment</b>		
Appendix K 1	The Applicant shall conduct a built heritage impact assessment (BHIA), taking the results of the previous studies and other background of the site into account, to identify known and unknown built heritage items within the assessment area that may be affected by the Project and its associated works and to assess the direct and indirect impacts on built heritage items. The impacts include visual impact, impacts on the fung shui/visual corridor of the historic buildings and structures through change of water-table, vibration caused by the Project. Assessment of impacts on cultural heritage shall also take full account of, and allow where appropriate, the Guidelines for Landscape and Visual Impact Assessment of Annex 18 of the TM. The Applicant shall demonstrate that all reasonable efforts have been made to avoid or keep the adverse impacts of built heritage items to the minimum through modification of design of the Project, or use of latest construction / engineering techniques. For those built heritage items that may still be directly and indirectly affected by the Project, the Applicant shall recommend practicable mitigation measures and monitoring to avoid or keep the adverse impact to the minimum. A checklist including all the affected sites of cultural heritage, impacts identified, recommended mitigation measures as well as the implementation agent and period shall also be included in the EIA report.	Section 12.2 summarizes baseline conditions, including both desktop review and field surveys, for terrestrial archaeology, built heritage and marine archaeology. Sections 12.4 and 12.6 hav identified potential cultural heritage impacts during construction and operational phases, and then Sections 12.5 and 12.7 summarize the proposed mitigation measures. Table 12.13 summarizes all the affected sites of cultural heritage, impacts identified, recommended mitigation measures. Further details on implementation agent and period can be referred to EMIS. Landscape and visual impact of cultural heritage should be referred to Ch.11.
Appendix K 2	<u>Archaeological impact assessment (AIA)</u>  The Applicant shall engage qualified archaeologist(s) to conduct an archaeological impact assessment (AIA), taking the results of previous studies and other background of the site into account, to evaluate the archaeological impact imposed by the Project and its associated works. The scope of the AIA shall be submitted to the Antiquities and Monuments Office and the Director prior to the commencement of the assessment for consideration. In case the existing information is inadequate or where the assessment area has not been adequately studied before, the archaeologists shall conduct archaeological investigations to assemble data. If necessary, the archaeologists shall obtain a licence from the Antiquities and Authority under the Antiquities and Monuments Ordinance (Cap.53) prior to the commencement of any archaeological fieldwork. Based on existing and collected data, the Applicant shall evaluate whether the proposed developments and works associated with the Project are acceptable from archaeological preservation point of view. In case adverse impact on archaeological heritage cannot be avoided, appropriate mitigation measures should be designed and recommended in the EIA report.	Section 12.2.1 has reviewed previous studies terrestrial archaeology of PDA. Sections 12.3.1.1 and 12.3.1.2 describe a comprehensive desktop review and terrestrial archaeological surveys have been conducted for archaeological impact assessment.  Section 12.3.1.3 stated the archaeologist responsible for conducting an archaeological fieldwork is required to apply for a Licence to Excavate and Search for Antiquities in accordance with the Antiquities and Monuments Ordinance (Cap.53).  Findings of Archaeological survey excavation have been presented in Section 12.4.1 in details. Section 12.5.1 recommends appropriate mitigation measures according to the archaeological potential identified in Section 12.4.1.
Appendix K 3	<u>Marine Archaeological Investigation (MAI)</u>	
Appendix K 3(a)	The Applicant shall engage a qualified marine archaeologist to conduct a marine archaeological review based on the best available information to identify whether there is any potential existence of sites or objects of cultural heritage within the seabed that will be affected by the marine works of the Project, whether the identified issues can be mitigated and whether there is a need for more detailed investigation. The review can take into account the scope and nature of proposed marine works, the results of previous marine archaeological investigations, the dredging history and other diving records, etc. The assessment area shall include all areas to be affected by the marine works of the Project.	Section 12.2.2 describe previous Marine Archaeological Reviews, the dredging history and other diving records. A diver survey was conducted by qualified marine archaeologists to obtain more detailed information about the seabed. Sections 12.3.2.6 - 12.3.2.10 describe the details of the diver survey. Findings of the diver survey have been identified in Sections 12.4.2 and 12.6.2. As no adverse impact is anticipated for marine archaeology during construction and operational phases, so no further action or mitigation is thus required.
Appendix K 3(b)	If marine archaeological potential is identified and the need for further investigation is confirmed, a MAI shall be carried out to ascertain the archaeological value of the affected seabed area. The Applicant shall propose a programme of investigation, including the scope of works, methodology and time schedule, etc. for agreement with the Director. The MAI shall be carried out by a qualified marine archaeologist who shall obtain a licence from the Antiquities Authority under the provision of the Antiquities and Monuments Ordinance, Cap. 53. If significant archaeological remains are identified, mitigation measures shall be designed and implemented in consultation with the Antiquities and Monuments Office.	Sections 12.3.2.2 - 12.3.2.10 describe the MAI was conducted to fill the data gaps for Tung Chung Bay and the near shore areas of North Lantau. In addition, approval of the Final Marine Diver Survey Proposal, which lists out a programme of investigation, and grant of licence by AMO have been stated in Section 12.3.2.5.
Appendix K 4	The Applicant shall draw necessary reference to relevant sections of the “Guidelines for Cultural Heritage Impact Assessment” and “Guidelines for Marine Archaeological Investigation” at Appendices K-1 and K-2 respectively for detailed requirement.	Section 12.3.1.3 and Section 12.3.2.5 have made reference to relevant sections of the “Guidelines for Cultural Heritage Impact Assessment” and “Guidelines for Marine Archaeological Investigation” at Appendices K-1 and K-2 respectively for detailed requirement.
Appendix K-1	The purpose of the guidelines is to assist the understanding of the requirements in assessing impact on archaeological and built heritage. The guidelines which will be revised by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice. A comprehensive Cultural Heritage Impact Assessment (CHIA) includes a baseline study, an impact assessment study associated with the appropriate mitigation measures proposed and to be implemented by project proponents.	A comprehensive Cultural Heritage Impact Assessment (CHIA) has been included in the EIA study. A baseline study is detailed in Section 12.2, assessment methodology and impacts during construction and operational phases are discussed in Sections 12.3, 12.4 and 12.6. Corresponding appropriate mitigation measures proposed are idenified in Sections 12.5 and 12.7.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix K-1 (1)	Baseline Study	
Appendix K-1 1.1 (a)	<p>A baseline study shall be conducted:</p> <p>to compile a comprehensive inventory of heritage sites within the proposed project area, which include:</p> <p>(i) all recorded sites of archaeological interest (both terrestrial and marine);</p> <p>(ii) all declared monuments;</p> <p>(iii) all proposed monuments;</p> <p>(iv) all buildings/ structures/ sites graded or proposed to be graded by the Antiquities Advisory Board (AAB);</p> <p>(v) Government historic sites identified by AMO;</p> <p>(vi) buildings/ structures/ sites of high architectural / historical significance and interest which are not included in items (i) to (v) above; and</p> <p>(vii) cultural landscapes include places associated with historic event, activity, or person or exhibiting other cultural or aesthetic values, such as sacred religious sites, battlefields, a setting for buildings or structures of architectural or archaeological importance, historic field patterns, clan graves, old tracks, fung shui woodlands and ponds, and etc.</p>	<p>Section 12.2.1.7 - 12.2.1.30, 12.2.2.15 - 12.2.2.45 have identified all recorded sites of archaeological interest for both terrestrial and marine.</p> <p>Section 12.2.1.4 and Table 12.1 have identified all declared monuments.</p> <p>No proposed monuments are identified within the PDAs at TCE and TCW.</p> <p>Section 12.3.3.7 and Table 12.9 summarized all buildings or sites graded by the Antiquities Advisory Board (AAB).</p> <p>No Government historic sites are identified by AMO within the PDAs at TCE and TCW.</p> <p>Section 12.3.3.7 and Table 12.9 summarized buildings/ structures/ sites of high architectural / historical significance and interest which are not included in items (i) to (v) above.</p> <p>Section 12.3.3.7 and Table 12.9 summarized cultural landscapes include places associated with historic event, activity, or person or exhibiting other cultural or aesthetic values, such as sacred religious sites, battlefields, a setting for buildings or structures of architectural or archaeological importance, historic field patterns, clan graves, old tracks, fung shui woodlands and ponds, and etc.</p>
Appendix K-1 1.1 (b)	to identify the direct and indirect impacts on the heritage sites at the planning stage in order to avoid causing any negative effects. The impacts include the direct loss, destruction or disturbance of an element of cultural heritage, impact on its settings or impinging on its character through inappropriate sitting or design, potential damage to the physical fabric of archaeological remains and historic buildings/ structures/ sites through air pollution, change of ground water level, vibration, ecological damage, new recreation or other daily needs to be caused by the new development. The impacts listed are merely to illustrate the range of potential impacts and not intended to be exhaustive.	Section 12.4.3 has identified the direct and indirect impacts on the heritage sites at the planning stage.
Appendix K-1 1.2	The baseline study shall also include a desk-top research and a field evaluation.	The baseline study includes a desk-top research and a field evaluation. Details are in Section 12.3.3.
Appendix K-1 1.3	Desk-top Research	
Appendix K-1 1.3.1	Desk-top research should be conducted to analyse, collect and collate the best available information. It shall include (if applicable) but not limited to:	
Appendix K-1 1.3.1 (a)	List of declared and proposed monuments protected by the Antiquities and Monuments Ordinance (Chapter 53).	The desktop study has been conducted to reveal information in accordance with list of declared and proposed monuments protected by the Antiquities and Monuments Ordinance (Chapter 53). Details are in Section 12.3.3.1.
Appendix K-1 1.3.1 (b)	Graded and proposed graded historic buildings/ structures/ sites.	The desktop study has been conducted to reveal information on graded and proposed graded historic buildings/ structures/ sites. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (c)	Government historic sites identified by AMO.	The desktop study has been conducted to reveal information on government historic sites identified by AMO. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (d)	Lists and archives kept in the Reference Library of AMO including sites of archaeological interest, declared monuments, proposed monuments and recorded historic buildings/ structures/ sites identified by AMO.	The desktop study has been conducted to reveal information on lists and archives kept in the Reference Library of AMO including sites of archaeological interest, declared monuments, proposed monuments and recorded historic buildings/ structures/ sites identified by AMO. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (e)	Publications on local historical, architectural, anthropological, archaeological and other cultural studies, such as, Journals of the Royal Asiatic Society (Hong Kong Branch), Journals of the Hong Kong Archaeological Society, AMO Monograph Series and so forth.	The desktop study has been conducted to reveal information on publications on local historical, architectural, anthropological, archaeological and other cultural studies. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (f)	Other unpublished papers, records, archival and historical documents through public libraries, archives, and the tertiary institutions, such as the Hong Kong Collection and libraries of the Department of Architecture of the University of Hong Kong and the Chinese University of Hong Kong, Public Records Office, photographic library of the Information Services Department and so forth.	The desktop study has been conducted to reveal information on other unpublished papers, records, archival and historical documents through public libraries, archives, and the tertiary institutions. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (g)	Any other unpublished archaeological investigation and excavation reports kept by AMO.	The desktop study has been conducted to reveal information on unpublished archaeological investigation and excavation reports kept by AMO. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (h)	Relevant information from AMO’s website.	The desktop study has been conducted to reveal information on relevant information from AMO’s website. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (i)	Historical documents in the Public Records Office, the Land Registry, District Lands Office, District Office and the Hong Kong Museum of History and so forth.	The desktop study has been conducted to reveal information on these historical documents. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (j)	Cartographic and pictorial documents. Old and recent maps and aerial photos searched in the Map and Aerial Photo Library of the Lands Department.	The desktop study has been conducted to reveal information on cartographic and pictorial documents. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (k)	Existing geological and topographic information (for archaeological desk-top research).	The desktop study has been conducted to reveal existing geological and topographic information. Details are in Section 12.3.3.2.
Appendix K-1 1.3.1 (l)	Discussion with local informants.	The desktop study has been conducted to reveal information on discussion with local informants. Details are in Section 12.3.3.2.
Appendix K-1 1.4.1	The potential value of the project area with regard the cultural heritage could be established easily where the area is well-documented. However, it does not mean that the area is devoid of interest if it lacks information. In these instances, site inspections and consultations with appropriate individuals or organizations should be conducted by those with expertise in local heritage to clarify the situation.	Desktop review on built heritage and a subsequent field survey were conducted to assess the potential value of the project area with regard the cultural heritage. Details of methodology are in Section 12.3.3 and impacts to cultural heritage during construction and operational phases are in Section 12.4.3 and 12.6.3.
Appendix K-1 1.4.2	Field survey on historic buildings/ structures/ sites	
Appendix K-1 1.4.2 (a)	Field scan of all the historic buildings/ structures/ sites within the project area.	Field surveys have been conducted to investigate all the historic buildings/ structures/ sites within the project area. Details are in Sections 12.3.3.4 - 12.3.3.7.
Appendix K-1 1.4.2 (b)	Photographic recording of each historic building/ structure/ site including the exterior (the elevations of all faces of the building premises, the roof, close up for the special architectural details) and the interior (special architectural details), if possible, as well as the surroundings, the associated cultural landscape features and the associated intangible cultural heritage (if any) of each historic building/ structure/ site.	Appendix 12.5 summarizes details of each historic building/ structure/ site, including photographic recording.
Appendix K-1 1.4.2 (c)	Interview with local elders and other informants on local historical, architectural, anthropological and other cultural information related to the historic buildings/ structures/ sites.	Each of the built heritage was scanned following assessable foot paths/streets and where chances were available, local elders or informants have been interviewed to collect information on local history and genealogy. Methodology has been detailed in Section 12.3.3.5.
Appendix K-1 1.4.2 (d)	Historical and architectural appraisal of the historic buildings/ structures/ sites, their associated cultural landscape and intangible cultural elements.	Historical and architectural appraisal consideration has been included in the study. Methodology has been detailed in Section 12.3.3.4 - 12.3.3.6.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix K-1 1.4.3	Archaeological Survey	
Appendix K-1 1.4.3 (a)	Appropriate methods for pricing and valuation of the archaeological survey, including by means of a Bill of Quantities or a Schedule of Rates should be adopted when appropriate in preparing specifications and relevant documents for calling tenders to carry out the archaeological survey. The specifications and relevant documents should be sent to AMO for agreement prior to calling tenders to conduct the archaeological survey.	Not applicable.
Appendix K-1 1.4.3 (b)	For archaeologists involved in contract archaeological works, they should adhere to recognized standards for professional practice and ethical conduct in undertaking commissioned archaeological works under contracts. They should make themselves fully understand recognized principles and guidelines regarding contract archaeological works, such as those of the Institute for Archaeologists, European Associations of Archaeologists and in Mainland China.	Section 12.1.1.6 summarizes the qualifications of archaeologists involved in contract archaeological works.
Appendix K-1 1.4.3 (c)	A licence shall be obtained from the Antiquities Authority for conducting archaeological field work. It takes at least two months to process an application.	Section 12.3.1.3 details the grant of Licence to Excavate and Search for Antiquities in accordance with the Antiquities and Monuments Ordinance (Cap.53) for conducting the archaeological survey
Appendix K-1 1.4.3 (d)	An archaeological brief/proposal, as an outline framework of the proposed archaeological works, should be prepared. The brief/proposal should clearly state the project and archaeological background, address necessary archaeological works required, elaborate the strategy and methodology adopted, including what particular research question(s) will be resolved, how the archaeological data will be collected and recorded, how the evidence will be analysed and interpreted and how the archaeological finds and results will be organized and made available. Effective field techniques including method and sampling details are required to be demonstrated clearly in the brief/proposal. Monitoring arrangement, reporting, contingency plan for field and post-excavation works and archive deposition (including finds, field and laboratory records, etc.) should also be addressed in the brief/proposal. The brief/proposal should be submitted to AMO for agreement prior to applying for a licence. Prior site visit to the project site before the submission of the brief/proposal is required so as to ascertain the feasibility of the proposed strategy and methodology as well as the availability of the proposed locations for auger survey and test pitting.	An archaeological proposal has been prepared and submitted to AMO for agreement prior to applying for a licence. The report has been approved by AMO in November 2013. Details are in Section 12.3.1.2 - 12.3.1.4.
Appendix K-1 1.4.3 (e)	<p>The following methods of archaeological survey (but not limited to) should be applied to assess the archaeological potential of the project area:</p> <p>(i) Definition of areas of natural land undisturbed in the recent past.</p> <p>(ii) Field scan of the natural land undisturbed in the recent past in detail with special attention paid to areas of exposed soil which were searched for artifacts.</p> <p>(iii) Conduct systematic auger survey and test pitting. The data collected from auger survey and test pitting should be able to establish the horizontal spread of cultural materials deposits.</p> <p>(iv) Excavation of test pits to establish the vertical sequence of cultural materials. The hand digging of 1 x 1 m or 1.5 x 1.5 m test pits to determine the presence or absence of deeper archaeological deposits and their cultural history.</p> <p>(v) The quantity and location of auger holes and test pits should be agreed with AMO prior to applying for a licence. Additional auger holes and test pits may be required to ascertain and demarcate the extent of archaeological deposits and remains.</p> <p>(vi) A qualified land surveyor should be engaged to record reduced levels and coordinates as well as set base points and reference lines in the course of the field survey.</p> <p>(vii) All archaeological works should be properly completed and recorded to agreed standards.</p>	<p>Undisturbed natural land was inspected in the archaeological survey. Details are in Section 12.4.1.2.</p> <p>Areas of exposed soil was inspected in the archaeological survey. Details are in Section 12.4.1.2.</p> <p>Test pit and auger hole sampling were included in the archaeological survey. Details are in Section 12.4.1.4.</p> <p>Details of test pit were summarised in the terrestrial archaeological survey report in Appendix 12.6.</p> <p>The Final Archaeological Survey Proposal on the quantity and location of auger holes and test pits was submitted to AMO prior to applying for a licence. Details are in Section 12.3.1.4.</p> <p>Details has been described in Appendix 12.6.</p> <p>Section 12.1 summarizes the legislations, standards and guidelines which all archaeological works strictly follow.</p>
Appendix K-1 1.4.3 (f)	Archaeologists should adhere to all the agreed professional and ethical standards for archaeological works, such as the standards and guidelines of the Institute for Archaeologists, English Heritage, European Associations of Archaeologists, Society for American Archaeology and in Mainland China.	The archaeologists have fulfilled professional and ethical standards for archaeological works. Details are in Section 12.1.1.6.
Appendix K-1 1.4.3 (g)	A Marine Archaeological Investigation (MAI) following Guidelines for MAI may be required for projects involving disturbance of seabed.	The Marine Archaeological Investigation has followed Guidelines for MAI. Details are in Sections 12.1.2.3 - 12.1.2.4.
Appendix K-1 1.4.4	If the field evaluation identifies any additional heritage sites within the study area which are of potential historic or archaeological importance/interest and not recorded by AMO, the findings should be reported to AMO as soon as possible.	The assessment has followed this guideline and details are in Section 12.1.1.9.
Appendix K-1 1.5	The Report of Baseline Study	
Appendix K-1 1.5.1	The study report should unequivocally include all the direct and concrete evidence to show that the process of the above desk-top and field survey has been satisfactorily completed. This should take the form of a detailed inventory of the heritage sites supported by full description of their significance. The description should contain detailed geographical, historical, archaeological, architectural, anthropological, ethnographic and other relevant data supplemented with illustrations below and photographic and cartographic records, if required.	Section 12.2 summarizes baseline conditions, including both desktop review and field surveys, for terrestrial archaeology, built heritage and marine archaeology. A detailed inventory of the heritage sites supported by full description of their significance, including review of aerial photos, history, findings of previous surveys and best available information in public domain.
Appendix K-1 1.5.2	A master layout plan showing all the identified archaeological and built heritage sites within the study area should be provided in the report. All the identified heritage sites should be properly numbered with their locations indicated on the master layout plan.	All the identified archaeological and built heritage sites within the study area are properly numbered and shown in Figures 12.1, 12.2, 12.4, 12.9 and 12.11.
Appendix K-1 1.5.3	Historic Buildings/ Structures/ Sites	
Appendix K-1 1.5.3(a)	A map in 1:1000 scale showing the boundary of each historic item.	This map scale has been adopted in drawings and the methodology is detailed in Section 12.3.3.6.
Appendix K-1 1.5.3(b)	Photographic records of each historic item.	Appendix 12.5 shows photographic records of each historic item.
Appendix K-1 1.5.3(c)	Detailed recording form of each historic item including its construction year, previous and present uses, architectural characteristics, as well as legends, historic persons and events, cultural landscape features and cultural activities associated with the structure.	Details of each historic item is shown in Appendix 12.5.
Appendix K-1 1.5.3(d)	A cross-referenced checklist including the reference number of each historic item, their photo and drawing reference, as well as the page number of the detailed recording form of each identified historic item for easy cross-checking of individual records.	Appendix 12.5 shows the details, reference number of each historic item, their photo and drawing reference for easy cross-checking.
Appendix K-1 1.5.4	Sites of Archaeological Interest	
Appendix K-1 1.5.4(a)	A map showing the boundary of each site of archaeological interest as supported and delineated by field walking, augering and test-pitting.	Figure 12.10 shows the boundary of each site of archaeological interest and locations of test pits and auger holes.
Appendix K-1 1.5.4(b)	Drawing of stratigraphic section of test-pits excavated which shows the cultural sequence of a site.	Appendix 12.6 shows drawing of stratigraphic section of test-pits excavated which shows the cultural sequence of a site.
Appendix K-1 1.5.4(c)	Reduced levels, coordinates, base points and reference lines should be clearly defined and certified by a qualified land surveyor.	Details has been described in Appendix 12.6.
Appendix K-1 1.5.4(d)	Guidelines for Archaeological Reports should be followed (Annex 1).	Section 12.4.1.5 confirms preparation of report has followed this guideline.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix K-1 1.5.5	A full bibliography and the source of information consulted should be provided to assist the evaluation of the quality of the evidence, including the title of the relevant material, its author(s), publisher, publication place and date. To facilitate verification of the accuracy, AMO will reserve the right to examine the full details of the research materials collected under the baseline study.	A full bibliography and the source of information have been provided in Section 12.9.
Appendix K-1 1.6	Finds and Archives	
Appendix K-1 1.6.1	Archaeological finds and archives should be handled following Guidelines for Handling of Archaeological Finds and Archives (Annex 2).	Archaeological finds and archives will follow Guidelines for Handling of Archaeological Finds and Archives as stated in Section 12.4.1.4.
Appendix K-1 1.7	Safety Issue	
Appendix K-1 1.7.1	During the course of the CHIA Study, all participants shall comply with all Ordinances, Regulations and By-laws which may be relevant or applicable in safety aspect in connection with the carrying out of the CHIA Study, such as site safety, insurance for personal injuries, death and property damage as well as personal safety apparatuses, etc.	The CHIA Study are carried out in accordance with all with all Ordinances, Regulations and By-laws which may be relevant or applicable in safety aspect. Details are in Section 12.1.
Appendix K-1 1.7.2	A Risk Assessment for the fieldwork shall be carried out with full consideration to all relevant Ordinances, Regulations and By-laws.	Risk Assessment for built heritage field surveys have been carried and summary is in Appendix 12.5.
Appendix K-1 1.8	Information Disclosure	
Appendix K-1 1.8.1	For releasing any information on the CHIA Study, the archaeologist/expert involved should strictly comply with the terms and conditions set in the contract/agreement and avoid conflict of interest.	The archaeologist/expert involved have strictly complied with the terms and conditions set in the legislations, standards and guidelines in Section 12.1.
<b>Appendix K-1 (2)</b>	<b>Impact Assessment Study</b>	
Appendix K-1 2.1	Identification of impact on heritage	
Appendix K-1 2.1.1	The impact assessment study must be undertaken to identify the impacts on the heritage sites which will be affected by the proposed development subject to the result of desktop research and field evaluation. The prediction of impacts and an evaluation of their significance must be undertaken by expert(s) in local heritage.	Desktop research and field evaluation have been carried out for built heritage as stated in Section 12.3.3. The impacts on the heritage sites which will be affected by the proposed development during construction and operational phases are assessed in Section 12.4.3 and 12.6.3.
Appendix K-1 2.1.2	During the assessment, both the direct impacts such as loss or damage of important features as well as indirect impacts should be clearly stated, such as adverse visual impact on heritage sites, landscape change to the associated cultural landscape features of the heritage sites, temporary change of access to the heritage sites during the work period, change of ground level or water level which may affect the preservation of the archaeological and built heritage in- situ during the implementation stage of the project.	Both direct and indirect impacts on the built heritage during construction and operational phases are assessed in Section 12.4.3 and 12.6.3.
Appendix K-1 2.1.3	<p>The evaluation of cultural heritage impact assessment may be classified into five levels of significance based on type and extent of the effects concluded in the CHIA study:</p> <p>(a) Beneficial impact: the impact is beneficial if the project will enhance the preservation of the heritage site(s) such as improving the flooding problem of the historic building after the sewerage project of the area;</p> <p>(b) Acceptable impact: if the assessment indicates that there will be no significant effects on the heritage site(s);</p> <p>(c) Acceptable impact with mitigation measures: if there will be some adverse effects, but these can be eliminated, reduced or offset to a large extent by specific measures, such as conduct a follow-up Conservation Proposal or Conservation Management Plan for the affected heritage site(s) before commencement of work in order to avoid any inappropriate and unnecessary interventions to the building;</p> <p>(d) Unacceptable impact: if the adverse effects are considered to be too excessive and are unable to mitigate practically;</p> <p>(e) Undetermined impact: if the significant adverse effects are likely, but the extent to which they may occur or may be mitigated cannot be determined from the study. Further detailed study will be required for the specific effects in question.</p>	The archaeological potential for corresponding development clusters are evaluated based on several categories including Low, Low to moderate, Moderate and High. Details are in Section 12.4.1.6.
Appendix K-1 2.1.4	Preservation in totality must be taken as the first priority as it will be a beneficial impact and will enhance the cultural and socio-economical environment if suitable measures to integrate the heritage site into the proposed project are carried out.	Preservation of cultural heritage has been carefully considered as stated in Sections 12.1.1.2 - 12.1.1.9.
Appendix K-1 2.1.5	If, due to site constraints and other factors, only preservation in part is possible, this must be fully justified with alternative proposals or layout designs which confirm the impracticability of total preservation.	Preservation of cultural heritage has been carefully considered as stated in Sections 12.1.1.2 - 12.1.1.9 and 12.5.1.4.
Appendix K-1 2.1.6	Total destruction must be taken as the very last resort in all cases and shall only be recommended with a meticulous and careful analysis balancing the interest of preserving local heritage as against that of the community as a whole. Assessment of impacts on heritage sites shall also take full account of, and follow where appropriate, paragraph 4.3.1(c), item 2 of Annex 10, items 2.6 to 2.9 of Annex 19 and other relevant parts of the Technical Memorandum on Environmental Impact Assessment (EIA) Process (Technical Memorandum).	Assessment of impacts on heritage sites have taken full account of Annex 10 and 19 of TM-EIAO as stated in Section 12.1.
Appendix K-1 2.2	Mitigation Measures	
Appendix K-1 2.2.1	It is always a good practice to recognize the heritage site early in the planning stage and site selection process, and to avoid it, i.e. preserve it in-situ, or leaving a buffer zone around the site with full justifications demonstrating the best practice of heritage conservation.	Some Site of Archaeological Interest require additional archaeological investigation after land resumption and prior to any construction works, or watching briefs during the construction phase. Should finds be discovered in either additional archaeological investigation after land resumption prior to construction and watching brief during construction phase, the AMO should be contacted immediately for further arrangement on practical and feasible handling procedures during construction phase. Details are in Section 12.5.1.
Appendix K-1 2.2.2	Mitigation is not only concerned with minimizing adverse impact on the heritage site but also should give consideration of potential enhancement if possible (such as to improve the access to the heritage site or enhance the landscape and visual quality of the heritage site).	Archaeological potential for Site of Archaeological Interest have been assessed and suitable mitigation measures have been proposed. Marine archaeological resource was not identified during the diver survey, whereas all the identified built heritage items within the vicinity of TCW are located in land use zonings of the RODP in which large scale development is not proposed. Hence, no further action or mitigation is required for both marine archaeology and built heritage. Respective details are in Section 12.5 and 12.7.
Appendix K-1 2.2.3	Mitigation measures shall not be recommended or taken as de facto means to avoid preservation of heritage sites. They must be proved beyond all possibilities to be the only practical course of action. Heritage sites are to be in favour of preservation unless it can be demonstrated that there is a need for a particular development which is of paramount importance and outweighs the significance of a heritage site.	Archaeological potential for Site of Archaeological Interest have been assessed and suitable mitigation measures have been proposed. Marine archaeological resource was not identified during the diver survey, whereas all the identified built heritage items within the vicinity of TCW are located in land use zonings of the RODP in which large scale development is not proposed. Hence, no further action or mitigation is required for both marine archaeology and built heritage. Respective details are in Section 12.5 and 12.7.
Appendix K-1 2.2.4	If avoidance of the heritage site is not possible, amelioration can be achieved by minimizing the potential impacts and the preservation of the heritage site, such as physically relocating it. Measures like amendments of the sitting, screening and revision of the detailed design of the development are required to lessen its degree of exposure if it causes visual intrusion to the heritage site and affects the character and integrity of the heritage site.	Archaeological potential for Site of Archaeological Interest have been assessed and suitable mitigation measures have been proposed. Marine archaeological resource was not identified during the diver survey, whereas all the identified built heritage items within the vicinity of TCW are located in land use zonings of the RODP in which large scale development is not proposed. Hence, no further action or mitigation is required for both marine archaeology and built heritage. Respective details are in Section 12.5 and 12.7.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Appendix K-1 2.2.5	A rescue programme, when required, may involve preservation of the historic building or structure together with the relics inside, and its historic environment through relocation, detailed cartographic and photographic survey or preservation of site of archaeological interest “by record”, i.e. through excavation to extract the maximum data as the very last resort.	No relocation of cultural heritage is required.
Appendix K-1 2.3.1	The Impact Assessment Report A detailed description and plans should be provided to elaborate on the heritage site(s) to be affected. Besides, please also refer to paragraph 4.3.1(d), items 2.10 to 2.14 of Annex 19 and other relevant parts of the Technical Memorandum and the Guidance Notes, other appropriate presentation methods for mitigation proposals like elevations, landscape plan and photomontage shall be used in the report extensively for illustrating the effectiveness of the measures.	Assessment of impacts on heritage sites have taken full account of Annex 19 of TM-EIAO as stated in Section 12.1. Sections 12.4 and 12.6 have provided a detailed elaboration on impacts to cultural heritage during construction and operational phases.
Appendix K-1 2.3.2	To illustrate the landscape and visual impacts on heritage sites, as well as effects of the mitigation measures, choice of appropriate presentation methods is important. These methods include perspective drawings, plans and section/ elevation diagrams, photographs on scaled physical models, photo-retouching and photomontage. These methods shall be used extensively to facilitate communication among the concerned parties.	This should be refer to Ch.11 for landscape and visual impacts on heritage sites.
Appendix K-1 2.3.3	The implementation programme for the agreed mitigation measures should be able to be executed and should be clearly set out in the report together with the funding proposal. These shall form an integral part of the overall redevelopment project programme and financing of the proposed redevelopment project. Competent professionals must be engaged to design and carry out the mitigation measures.	This should be refer to EM&A manual for implementation programme for the agreed mitigation measures.
Appendix K-1 2.3.4	For contents of the implementation programme, reference can be made to Annex 20 of the Technical Memorandum and the Guidance Notes. In particular, item 6.7 of Annex 20 requires to define and list out clearly the proposed mitigation measures to be implemented, by whom, when, where, to what requirements and the various implementation responsibilities. A comprehensive plan and programme for the protection and conservation of the preserved heritage site, if any, during the planning and design stage of the proposed project must be addressed in details.	This should be refer to EM&A manual for implementation programme for the agreed mitigation measures.
Appendix K-1 2.3.5	Supplementary information to facilitate the verification of the findings shall be provided in the report including but not limited to:	
Appendix K-1 2.3.5 (a)	layout plan(s) in a proper scale illustrating the location of all heritage sites within the study area, the extent of the work area together with brief description of the proposed works;	This should be refer to Ch.1 for project elements and relevant figures showing the layout plans.
Appendix K-1 2.3.5 (b)	all the heritage sites within the study area should be properly numbered and cross-reference to the relevant drawings and plans.	The heritage sites have been properly numbered throughout the chapter and Figure 12.2 shows cultural heritage resources in Tung Chung.
Appendix K-1 2.3.5 ©	an impact assessment cross-referenced checklist of all the heritage sites within the study area including heritage site reference, distance between the heritage site and work area, summary of the possible impact(s), impact level, summary of the proposed mitigation measure(s), as well as references of the relevant plans, drawings and photos; and	Locations of identified heritage sites / buildings are shown in Figures 12.2, 12.9 and 12.11. Summary of possible impacts and impact level during construction and operational phases have been assessed in Sections 12.4 and 12.6. Propose mitigation measures are in Sections 12.5 and 12.7.
Appendix K-1 2.3.5 (d)	a full implementation programme of the mitigation measures for all affected heritage sites to be implemented with details, such as by whom, when, where, to what requirements and the various implementation responsibilities of individual parties.	This should be refer to EM&A manual for implementation programme for the agreed mitigation measures.
<b><u>Guidelines for Archaeological Reports</u></b>		
<b>Annex 1 to Appendix K-1 I</b>	<b>General</b>	
Annex 1 to Appendix K-1 I.1	All reports should be written in a clear, concise and logical style.	Noted.
Annex 1 to Appendix K-1 I.2	All the constituent parts (text, figures, photos and specialist reports (if any)) should provide full cross-reference. Readers should be able to find their way around the report without difficulty.	Noted.
Annex 1 to Appendix K-1 I.3	The reports should be submitted in A4 size and accompanying drawings of convenient sizes.	Noted. Drawings are in A3 size for easy reference.
Annex 1 to Appendix K-1 I.4	Draft reports should be submitted to the Antiquities and Monuments Office (AMO) for comments within two months after completion of archaeological work unless otherwise approved by AMO.	Noted.
Annex 1 to Appendix K-1 I.5	The draft reports should be revised as required by AMO and relevant parties. The revised reports should be submitted to AMO within three weeks after receiving comments from AMO and relevant parties.	Noted.
Annex 1 to Appendix K-1 I.6	At least 5 hard copies of the final reports should be submitted to AMO for record purpose.	Noted.
Annex 1 to Appendix K-1 I.7	At least 2 digital copies of the final reports in both Microsoft Word format and Acrobat (.PDF) format without loss of data and change of appearance compared with the corresponding hard copy should be submitted to AMO. The digital copies should be saved in a convenient medium, such as compact discs with clear label on the surface and kept in protective pockets.	Noted.
Annex 1 to Appendix K-1 I.8	Errors are the responsibilities of the author(s) and should so far as possible be identified and rectified before submission to AMO.	Noted.
Annex 1 to Appendix K-1 I.9	The guidelines which will be revised by the AMO of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice.	Noted.
<b>Annex 1 to Appendix K-1 II</b>	<b>Suggested Format of Reports</b>	
Annex 1 to Appendix K-1 II.1	Front page: - Project/Site name - Nature of the report e.g. (Draft/Final) Archaeological Investigation/Survey Report Archaeological Impact Assessment Report Watching Brief Report Rescue Excavation Report Post-excavation Report - Organization - Date of report	Noted.
Annex 1 to Appendix K-1 II.2	Contents list Page number of each section should be given.	Noted.
Annex 1 to Appendix K-1 II.3	Non-technical summary (both in English and Chinese with approximate 150 - 300 words each) This should outline in plain, non-technical language, the principal reasons for the archaeological work, its aims and main results, and should include reference to authorship and commissioning body.	Noted.
Annex 1 to Appendix K-1 II.4	Introduction This should set out background leading to the commission of the reports. The location, area, scope and date of conducting the archaeological work must be given. The location of archaeological work should be shown on maps in appropriate scales and with proper legends.	The project background is stated in Chapter 1. The location, area, scope and date of conducting the archaeological work are stated in Sections 12.3.1.2 - 12.3.1.4, 12.3.2.2 - 12.3.2.10 and 12.3.3.3 - 12.3.3.7. Figures 12.7, 12.8, 12.9 and Appendix 12.5 show the location of archaeological work.
Annex 1 to Appendix K-1 II.5	Aims of archaeological work These should reflect the aims set in the project design.	Section 12.3.1.2, 12.3.2.2 - 12.3.2.4 and 12.3.3.3 - 12.3.3.7 identify the aims set in the project design.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Annex 1 to Appendix K-1 II.6	Archaeological, historical, geological and topographical background of the site Supporting aerial photos and maps (both old and present) in appropriate scales, with proper legends and with the site locations clearly marked on should be provided.	Appendix 12.1 shows historical aerial photos for cultural heritage impact assessment while Appendix 12.2 records previous archaeological survey locations.
Annex 1 to Appendix K-1 II.7	Methodology The methods used including any variation to the agreed project design should be set out clearly and explained as appropriate.	Section 12.3 has identified the assessment methodology for terrestrial archaeology, marine archaeology and built heritage.
Annex 1 to Appendix K-1 II.8	Results ·The results should outline the findings, known and potential archaeological interests by period and/or type. Their significance and value with reference/inclusion of supporting evidence should be indicated. If more than one interpretation is possible, the alternatives should also be presented, at least in summary. ·The results should be amplified by the use of drawings and photographs. ·Tables summarizing features and artifacts by trench/grid/test pit together with their interpretation should be included. ·The method, sampling details, results and interpretation as well as appropriate supporting data of the analysis for the environmental materials, e.g. ecofacts identified and/or collected during the fieldwork should be included. ·For impact assessment, the likely effect of the proposed development on the known or potential archaeological resource should be outlined.	Sections 12.4 and 12.6 have identified possible impacts and impact level during construction and operational phases.  Figure 12.2 shows cultural heritage resources in Tung Chung. Table 12.8 summarizes locations of the diver survey and Table 12.9 summarizes built heritage resources in TCW. Section 12.3 has identified the assessment methodology for terrestrial archaeology, marine archaeology and built heritage.  Sections 12.4 and 12.6 have identified possible impacts and impact level during construction and operational phases. Figure
Annex 1 to Appendix K-1 II.9	Conclusion This should include summarization and interpretation of the result.	Section 12.8 concludes findings of impact assessment of terrestrial archaeology, marine archaeology and built heritage.
Annex 1 to Appendix K-1 II.10	Recommendation Recommendations on further work and the responsible party as well as a brief planning framework should be outlined.	Mitigation measures are proposed in Sections 12.5 and 12.7. Details on responsible party can be referred to EM&A Manual and EMIS.
Annex 1 to Appendix K-1 II.11	Reference and bibliography A list of all primary and secondary sources including electronic sources used should be given in full detail, including the title of the relevant material, its author(s), publisher, publication place and date.	Section 12.9 summarizes references adopted in the culurtal heritage impact assessment.
Annex 1 to Appendix K-1 II.12	Archaeological team The director and members of the archaeological team and the author(s) of the report should be clearly specified.	Noted.
Annex 1 to Appendix K-1 II.13	Copyright and dissemination The copyright of the report should be clearly identified. To facilitate future research studies, please specify that the report can be made available to the public in the Reference Library of the Heritage Discovery Centre.	Noted.
Annex 1 to Appendix K-1 II.14	Supporting illustrations They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.	Noted.
Annex 1 to Appendix K-1 II.14A	Maps A location plan of the project site should be included. Archaeological work locations, such as auger hole and test pit locations (with relevant coordinates certified by a qualified land surveyor), should be clearly shown on maps in appropriate scales, with proper legends, grid references (in 8 digits) and captions.	Figure 1.1 illustrates the location plan of the project site. Figures 12.7 - 12.11 show locations of auger holes and test pits, archaeological surveys, identified heritiage resources.
Annex 1 to Appendix K-1 II.14B	Drawings of test pits, archaeological features, special finds <sup>1</sup> , selected representative samples from general finds Drawings of all excavated test pits (at least one cross section of each test pit), all excavated archaeological features (both plan and cross section of each archaeological feature), all special finds identified in the excavation and selected representative samples from general finds (at least front view and section of each finds) should be included. All drawings should be clearly numbered and easily referenced to the text. The drawing scales stipulated below should be followed: Cross section and profile drawings of test pits 1:20 Archaeological feature drawings 1:10 Finds drawings 1:1 If drawings of the above stated scales are not appropriate to be incorporated into the report under certain occasions, reduced copy of the drawings with the same scales are acceptable. Proper captions, legends and indication of reduced size should be given.	Figures 12.7 - 12.11 show locations of auger holes and test pits, archaeological surveys, identified heritiage resources. This can make reference to Appendix 12.6 - Terrestrial Archaeological Survey Report.  Noted.
Annex 1 to Appendix K-1 II.14C	1 Special finds are sometimes known as small finds (小件) in Chinese or registered finds. Drawings and photos of the special/small/registered finds should be included in the archaeological report. Photos of project site and the surrounding area, test pits, archaeological features, special finds, selected representative samples from general finds Photos of project site and the surrounding area, all excavated test pits (at least one cross section of each test pit), all excavated archaeological features (both plan and cross section of each archaeological feature), all special finds identified in the excavation and selected representative samples from general finds (at least front view of each of the finds) should be included. All photos should be at least in 3R size with proper captions and scales. They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.	Appendix 12.6 show location of the project, photos of test pits, archaeological features, special finds, selected representative samples from general finds.
Annex 1 to Appendix K-1 II.15	Supporting data in appendices These should consist of essential technical details to support the result. These may include stratigraphic record of test pits and auger holes, records of general and special finds as well as ecofacts discovered with description, quantity and context number/stratigraphic sequence, result of laboratory testing, index of field archives.	Appendix 12.1 shows historical aerial photos for cultural heritage impact assessment while Appendix 12.2 records previous archaeological survey locations. Appendices 12.3, 12.4and 12.7 show photo records of the diver survey for investigations on marine archaeology. Appendix 12.5 details existing built heritage resources while Appendix 12.6 records Terrestrial Archaeological Survey Report approved by AMO.
Annex 1 to Appendix K-1 II.16	Other professional views/comments This can reflect any issues/difficulties regarding the archaeological project observed/encountered by the archaeological team.	
Annex 1 to Appendix K-1 II.17	Comment and response All comments and responses from AMO and relevant parties should be attached in full.	Noted.
Annex 1 to Appendix K-1 III	Green Measures	
Annex 1 to Appendix K-1 III.1	All reports should be of single line spacing and printed on both sides of the paper.	Noted.
Annex 1 to Appendix K-1 III.2	Excessive page margins should be avoided. A top/bottom margin of 2 cm and left/right margin of 2.5 cm are sufficient.	Noted.
Annex 1 to Appendix K-1 III.3	Use of blank paper should be avoided as far as possible.	Noted.
Annex 1 to Appendix K-1 III.4	Suitable font type of font size 12 should be used generally in balancing legibility and waste reduction objective.	Noted.
	Guidelines for Handling of Archaeological Finds and Archives	
Annex 2 to Appendix K-1 I	General Remark	
Annex 2 to Appendix K-1 I.1	The guidelines which will be revised by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice.	The general remark is noticed and followed. Details are in Section 12.1.1.18 - 12.1.1.19.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check
Annex 2 to Appendix K-1 I.2	Please use the site code ( ) ** for the archaeological project, namely Licensee must use this unique site code for the whole project. ** If an archaeological project covers more than one archaeological site/location, licensee should contact the Central Archaeological Repository (CAR) at 2384 5446 or aciamoar@lcsd.gov.hk to obtain relevant site codes.	Not applicable.
Annex 2 to Appendix K-1 I.3	Licensee should contact the CAR at 2384 5446 or aciamoar@lcsd.gov.hk regarding the handover of archaeological finds and archives when post-excavation research and excavation report have been completed and accepted by the AMO.	Noted.
Annex 2 to Appendix K-1 I.4	If a huge quantity of similar general finds was discovered from a single archaeological project, licensee is advised to consult the AMO regarding the collecting strategy as early as possible.	Noted.
Annex 2 to Appendix K-1 I.5	For the preparation of archaeological finds and archives for long-term curation by the CAR, the guidelines as set out below should be followed.	Noted.
Annex 2 to Appendix K-1 I.6	If the licensee does not handle the finds and archives in accordance with this guidelines, the AMO may inform the project proponent to revise the relevant data. The arrangement of handover may subsequently be deferred.	Noted.
<b>Annex 2 to Appendix K-1 II</b>		
Annex 2 to Appendix K-1 II.7	<b>Archaeological Finds</b> Cleaning The excavated finds should be properly cleaned with water, except: (i) the finds are identified for scientific analysis; (ii) metal & organic objects (e.g. bone, wood, leather, textile objects and etc.) should not be cleaned with water. Licensee is advised to consult the AMO if in doubt.	Noted.
Annex 2 to Appendix K-1 II.8	Marking - The excavated finds should be cleaned before marking object number. - “Sandwich” technique <sup>1</sup> should be adopted for marking permanent object number. <sup>1</sup> Steps for “Sandwich” technique 1. First of all, the find number should be marked in appropriate area and size that does not impact important diagnostic or aesthetic parts of the find. 2. Clean the area to be marked. 3. Apply a thin coat of clear reversible lacquer on the area. Use white lacquer if the object is dark in colour. Let the base coat dry completely. 4. Use a permanent water-based ink to write the find number on top of the base coat. Let ink dry completely. 5. Apply a top coat of clear varnish. 6. Let the clear varnish dry completely before packing. - Each special find should be marked with site code, context number and SF number, etc. - Any representative samples selected from the general finds for discussion on the excavation report should be marked with site code, context number, sample number and bagged separately. - The general finds should be marked with site code and context number. - For the finds which are too small, organic objects (e.g. bone, wood, leather, textile objects and etc.) or have unstable surface, object number should not be marked on the object directly. These finds should be bagged separately and attached with a label containing information about the site code, context number, find number and description of find.	Noted.
Annex 2 to Appendix K-1 II.9	Labeling and bagging - Two labels should be provided for each bag which contains finds, one is adhered on the surface of the bag while the other is kept inside the bag for easy reference. - The label inside the bag should be kept separately with a smaller plastic bag so that the label can be kept much longer. - Information about the site code, context number, test-pit number, object number (or bag number) and description of finds should be written clearly on the label. - Finds under the same context should be bagged together. If those finds, however, have been categorized according to their typology, materials or characteristics, separate bagging is required.	Noted.
Annex 2 to Appendix K-1 II.10	Conservation - To refit and reconstruct pottery vessels with appropriate adhesive. A heat and waterproof adhesive, e.g. product of H. Marcel Guest Ltd., is recommended. - Any adhesives which are not reversible or would damage the finds should not be applied on the finds. Archaeologist is advised to consult the AMO if in doubt.	Noted.
Annex 2 to Appendix K-1 II.11	Finds register A standard finds register, for both special finds and general finds, with information about the find’s number, name, description, quantity, type, weight, dimensions and field data should be duly filled in. Licensee should contact the CAR at 2384 5446 or aciamoar@lcsd.gov.hk to obtain the standard finds register (in Excel format). Special finds and general finds should be inputted in individual register. Both hard & soft copies (in Excel format) of the duly completed register should be handed over.	Noted.
Annex 2 to Appendix K-1 II.12	Sample register of eco-facts A clear sample register with information about the description of the sample, quantity, type and weight should be prepared for handover.	Noted.



Sections of the EIA Study Brief	Specific Requirements	Compliance Check
<b>Annex 2 to Appendix K-1 III</b>	<b>Field Records and Finds Processing Records</b>	
Annex 2 to Appendix K-1 III.13	Field records include field diary, site record for individual test pit/trench/square, context recording sheet, special finds recording sheet, soil sample & eco-facts sample recording sheet, map, survey sheet, photograph/ audio-visual records, etc.	This can be referred to Appendix 12.6.
Annex 2 to Appendix K-1 III.14	Finds processing records include conservation record, measured drawings and photographs, laboratory reports, etc.	This can be referred to Appendix 12.6.
Annex 2 to Appendix K-1 III.15	Measured drawing, both hard & soft copies (in pdf format), and photograph (in jpg format) of each special find should be handed over.	Noted.
Annex 2 to Appendix K-1 III.16	All the aforesaid records stated in paragraphs 12 to 14 should be handed over to the CAR when post-excavation research and excavation report have been completed. Please note: - all the field records should be submitted together with indexes. - the video footage should be submitted together with index describing the content of the video footage. - all the slides, colour/ black & white negatives or digital photographs should be submitted together with photo register.	Noted.
<b>Annex 2 to Appendix K-1 IV</b>	<b>Handover of Finds</b>	
Annex 2 to Appendix K-1 IV.17	Packing - Each special find should be packed and protected with tissue paper, bubble sheet or P.E. foam to avoid shocking when transporting to the repository. No packing material other than the aforesaid items should be used. - The general finds should be protected with bubble sheet or P.E. foam and packed in heavy duty plastic container. - The heavy duty plastic container, e.g. product of the Star Industrial Co., Ltd. (No. 1849 or 1852), is recommended. - For oversized finds, prior advice on packing method should be sought from the AMO.	Noted.
Annex 2 to Appendix K-1 IV.18	Handover procedure - The licensee should make an appointment with the CAR for the handover and arrange to transport the finds and archives to the repository. - Prior to handover, licensee is required to supply with the aforesaid finds register, field records register and associated records to the CAR for checking at least three working days in advance. Exact date of handover will be arranged subsequently. - Handover forms for finds and archives should be signed by the representatives of the licensee and the AMO.	Noted.
Appendix K-2	<b>Guidelines for Marine Archaeological Investigation (MAI) (As at October 2010)</b> The standard practice for MAI should consist of four separate tasks, i.e. (1) Baseline Review, (2) Geophysical Survey, (3) Establishing Archaeological Potential and (4) Remote Operated Vehicle (ROV)/Visual Diver Survey/Watching Brief. Marine archaeologists should make reference to the standard and guidance of the Institute for Archaeologists and English Heritage to carry out MAI.	Marine Archaeological Investigation has followed this guideline and details are in Section 12.1.2.3 - 12.1.2.4, and Appendix 12.7.
Appendix K-2.1	<b>Baseline Review</b>	
Appendix K-2.1.1	A baseline review should be conducted to collate the existing information in order to identify the potential for archaeological resources and, if identified, their likely character, extent, quality and value.	Section 12.2.2 summarizes review on previous marine archaeological investigations and baseline review.
Appendix K-2.1.2	The baseline review will focus on known sources of archive data. It will include:	
Appendix K-2.1.2(a)	Geotechnical Engineering Office (GEO) – the Department holds extensive seabed survey data collected from previous geological research.	Source of information from Geotechnical Engineering Office (GEO) is stated in Section 12.2.2.15.
Appendix K-2.1.2(b)	Marine Department, Hydrographic Office - the Department holds a substantial archive of hydrographic data and charts.	Source of information from Marine Department and Hydrographic Office is stated in Section 12.2.2.15.
Appendix K-2.1.2(c)	The Royal Naval Hydrographic Department in the UK - the Department maintains an archive of all survey data collected by naval hydrographers.	Section 12.2.2.45 summarizes information obtained from the Royal Naval Hydrographic Department in the UK.
Appendix K-2.1.2(d)	Relevant government departments should be consulted in order to obtain the information of dredging history (if any) on the proposed project area. Area for sand dredging, mud disposal and allocated marine borrow area within Hong Kong should also be considered during the review.	Source of information is stated in Section 12.2.2.15.
Appendix K-2.1.3	The above data sources will provide historical records and more detailed geological analysis of submarine features which may have been subsequently masked by more recent sediment deposits and accumulated debris.	Sections 12.2.2.16 - 12.2.2.45 summarize review findings based on above data sources.
Appendix K-2.2	<b>Geophysical Survey</b>	
Appendix K-2.2.1	Extensive geophysical survey of the study area should deploy high resolution boomer, side scan sonar, an echo sounder and high resolution multi beam sonar. The multi beam data must be presented as processed digital terrain models to facilitate the archaeological analysis. The data received from the survey would be analysed in detail to provide:	Appendices 12.3 and 12.4 record the operaton and equipment of the diver survey.
Appendix K-2.2.1a	Exact definition of the areas of greatest archaeological potential.	Section 12.4.2 has identified no marine archaeological remains were positively identified during the seabed survey.
Appendix K-2.2.1b	Assessment of the depth and nature of the seabed sediments to define which areas consist of suitable material to bury and preserve archaeological material.	Section 12.4.2 and Appendix 12.7 summarize findings of assessment of the depth and nature of the seabed sediments.
Appendix K-2.2.1c	Detailed examination of the boomer and side scan sonar records to map anomalies in and on the seabed which may be archaeological material.	Section 12.3.2 details the methodology of MAI. Further details are also shown in Appendix 12.7.
Appendix K-2.2.1d	Detailed examination of the multi beam sonar data to assess the archaeological potential of the sonar contacts.	Section 12.3.2 details the methodology of MAI. Further details are also shown in Appendix 12.7.
Appendix K-2.3	<b>Establishing Archaeological Potential</b>	Section 12.4.2 has identified no marine archaeological remains were positively identified during the seabed survey.
Appendix K-2.3.1	The data examined during Task 1 and 2 will be analysed to provide an indication of the likely character and extent of archaeological resources within the study area. This would facilitate formulation of a strategy for investigation.	Baseline review in Section 12.2.2 provides an indication of the likely character and extent of archaeological resources within the study area. The diver survey then further investigates extent of archaeological resources within the study area. Methodology of the diver survey is detailed in Section 12.3.2.
Appendix K-2.3.2	The results would be presented as a written report and charts. If there is no indication of archaeological material there would be no need for further work.	Sections 12.4.2.3 - 12.4.2.4 summarize results of diver seabed circular surveys and conclude that marine archaeological resource was not identified during the diver survey.
Appendix K-2.3.3	Charts should be presented at the most appropriate scale and show each survey contact. Its dimensions and exact location should also be shown.	This can be referred to Appendix 12.7.
Appendix K-2.4	<b>Remote Operated Vehicle (ROV)/Visual Diver Survey/Watching Brief</b>	A diver survey was conducted as detailed in Section 12.3.2 and Appendix 12.7.
Appendix K-2.4.1	Subject to the outcome of Task 1, 2 and 3, accepted marine archaeological practice would be to plan a field evaluation programme to acquire more detailed data on areas identified as having archaeological potential. The areas of archaeological interest can be inspected by ROV or divers. ROV or a team of divers with both still and video cameras would be used to record all seabed features of archaeological interest.	Section 12.3.2.5 shows that a Final Marine Diver Survey Proposal has been prepared prior to any field surveys.
Appendix K-2.4.2	Owing to the heavy marine traffic in Hong Kong, the ROV/visual diver survey may not be feasible to achieve the target. If that is the case, an archaeological watching brief is the most appropriate way to monitor the dredging operations in areas of identified high potential to obtain physical archaeological information.	Visual surveys are proposed at regular intervals along the non reclaimed shorelines of the study area in Tung Chung Bay to assess the impact of the works on marine archaeological resources and recommend any mitigation measures, if necessary. Details are shown in Section 12.3.2.

Sections of the EIA Study Brief	Specific Requirements	Compliance Check																																																																																																								
Appendix K-2.4.3	A sampling strategy for an archaeological watching brief would be prepared based on the results of Task 1, 2 and 3 to focus work on the areas of greatest archaeological potential. Careful monitoring of the dredging operations would enable immediate identification and salvage of archaeological material. If archaeological material is found, the AMO should be contacted immediately to seek guidance on its significance and appropriate mitigation measures would be prepared.	No marine archaeological remains were positively identified during the seabed survey. That implies no marine archaeological resource was identified during the diver survey. Sections 12.4.2.3 - 12.4.2.4 summarize results of diver seabed circular surveys.																																																																																																								
Appendix K-2.4.4	If Task 4 is undertaken, the results would be presented in a written report with charts.	Noted.																																																																																																								
Appendix K-2.5	<b>Report</b> Five copies of the final report should be submitted to the AMO for record.	Noted.																																																																																																								
<b>Implementation Schedule of Recommended Mitigation Measures</b>																																																																																																										
Appendix L	<p style="text-align: center;"><b>Implementation Schedule of Recommended Mitigation Measures</b></p> <table><tr><th>EIA Ref.</th><th>EM&amp;A Ref.</th><th>Recommended Mitigation Measures</th><th>Objectives of the Measures &amp; Main Concerns to Address</th><th>Who to implement the measure?</th><th>Location of the measure</th><th>When to implement the measure?</th><th>What standards or requirements for the measure to achieve?</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Measures & Main Concerns to Address	Who to implement the measure?	Location of the measure	When to implement the measure?	What standards or requirements for the measure to achieve?																																																																																																	Noted.
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<b>Requirements for EIA Report Documents</b>																																																																																																										
Appendix M 1	<p>The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:</p> <p>(i) 30 copies of the EIA report and 30 copies of the executive summary (each bilingual in both English and Chinese) as required under section 6(2) of the EIAO to be supplied at the time of application for approval of the EIA report.</p> <p>(ii) When necessary, addendum to the EIA report and the executive summary submitted in (i) above as required under section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.</p> <p>(iii) 20 copies of the EIA report and 50 copies of the executive summary (each bilingual in both English and Chinese) with or without Addendum as required under section 7(5) of the EIAO, to be supplied upon advice by the Director for consultation with the Advisory Council on the Environment.</p>	Noted.																																																																																																								
Appendix M 2	To facilitate public inspection of EIA report via EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA report and the executive summary prepared in HyperText Markup Language (HTML) (version 4.0 or later) and in Portable Document Format (PDF version 1.3 or later). For the HTML version, a content page capable of providing hyperlink to each section and sub-section of the EIA report and the executive summary shall be included in the beginning of the document. Hyperlinks to figures, drawings and tables in the EIA report and the executive summary shall be provided in the main text from where respective references are made. Graphics in the report shall be in interlaced GIF format or in suitable formats accepted by the Director.	Noted.																																																																																																								
Appendix M 3	The electronic copies of the EIA report and the executive summary shall be submitted to the Director at the time of application for approval of the EIA report.	Noted.																																																																																																								
Appendix M 4	When the EIA report and the executive summary are made available for public inspection under section 7(1) of the EIAO, the content of the electronic copies of the EIA report and the executive summary must be the same as the hard copies and the Director shall be provided with the most updated electronic copies.	Noted.																																																																																																								
Appendix M 5	To promote environmentally friendly and efficient dissemination of information, both hardcopies and electronic copies of future EM&A reports recommended by the EIA study shall be required.	Noted.																																																																																																								

Specific Requirements	Compliance Check
<b><u>ANNEX 11: CONTENTS OF AN ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT</u></b>	
<b><u>EXECUTIVE SUMMARY IN ENGLISH AND CHINESE</u></b>	
- Summary of main issues, findings, conclusions and recommendations	The Executive Summary contains a summary of each technical aspect including the findings, conclusions and recommendations from each environmental assessment.
<b><u>INTRODUCTION</u></b>	
- Background of the project - Purpose of the EIA study - The approach	Project background is presented in Section 1.1. The purpose of the EIA Study is described in Section 1.6. The approach of the study follows that of the EIAO-TM and EIA Study Brief requirements, which are summarised in Section 1.3.
<b><u>DESCRIPTION OF THE PROJECT</u></b>	
- Key project requirements - Site location and site history - Nature, scope and benefits of the project  - Size or scale, shape and design of the project - Project timetable and phasing of the project - Means by which the project will be implemented - Any related projects - Type, scope, scale, frequency and duration of the construction, operational or decommissioning (if relevant) activities - Background and history of the project, including considerations given to different options, and the project's different siting or alignment - Description of scenarios with or without the project	The key project elements are described in Section 1.2. The Possible Development Areas are located at the open sea to the east and at the Tung Chugn valley to the west of the Tung Chung New Town. The Project aims to introduce an additional population of 140,000 to the Tung Chung New Town. The scope of Project is described in Section 1.2. The benefits of the Project are descibed in Section 1.7. The recommended size, shape and design of the key components of the project are described in Section 1.2. The implementation programme and phasing of the Project is described in Section 2.9. The project is programmed to commence operation in different phases. These are described in Section 2.9. Other concurrent projects that may have interface with this project are described in Section 1.8. Details of the various construction and operational activities are summarised in Section 2.9. The background and history of the project are presented in Section 1.1. The consideration of different options and alternatives are evaluated in Section 2.3 and Section 2.5. Scenarios with and without the project have been evaluated in Sections 2.2.
<b><u>ENVIRONMENTAL LEGISLATION, POLICIES, PLANS, STANDARDS AND CRITERIA</u></b>	
- Applicable environmental ordinances and regulations - Applicable government environmental policies and plans - Applicable environmental standards and criteria - Other references	Air Quality – Section 3.1. Noise – Section 4.1. Water Quality – Section 5.1. Sewerage and Sewage Treatment Implications - Section 6.1. Waste Management Implications - Section 7.1 Land Contamination - Section 8.1 Ecology - Section 9.2 Fishery - Section 10.1 Landscape and Visual - Section 11.2 Cultural Heritage - Section 12.1
<b><u>DESCRIPTION OF THE ENVIRONMENT</u></b>	
- Baseline environmental conditions - Environmental trends	Air Quality – EPD's air quality monitoring data is given in Section 3.3. Noise – Description of the noise environment and prevailing noise levels are given in Section 4.2. Water Quality – EPD's baseline water quality monitoring data is given in Section 5.2. Sewerage and Sewage Treatment Implications - Baseline conditions are given in Section 6.1. Waste Management Implications - Description of existing waste mangement practices, where applicable, have been incorporated as part of the analysis of waste related impacts in Section 7.2. Land Contamination - Descriptions on historical and existing land uses are given in Section 8.1. Ecology - The existing ecological baseline conditions obtained by means of literature review and ecological surveys are described in Section 9.4. Fishery - The existing fisheries baseline conditions obtained by means of literature review and fisheries surveys are described in Section 10.1. Landscape and Visual - The baseline conditions for landscape and visual are given in Section 11.5 and Section 11.9. Cultural Heritage - A review of the baseline cultural heritage conditions is presented in Section 12.2
<b><u>DESCRIPTION OF ASSESSMENT METHODOLOGIES</u></b>	
- Assessment methodologies, assumptions and criteria, including sample calculations and input and output files of a typical model run for all mathematical modelling	Air Quality – The methodology for construction phase air quality assessment including assumptions are presented in Section 3.4. Construction phase model input files and results are presented in Appendices 3.2 to 3.6 and 3.8. The methodology for operation phase air quality assessment is presented in Section 3.5. Details of model inputs, assumptions and results are presented in Appendices 3.9 to 3.15. Noise – Construction airborne noise assessment is based on the methodology described in Section 4.3.1 and calculation inputs are presented in Appendix 4.2 to 4.6. Construction groundborne noise assessment is based on the methodology described in Section 4.4.1 and calculation inputs are presented in Appendix 4.10 to 4.10a. Road traffic noise assessment is based on the methodology described in Section 4.5.1 and calculation inputs are presented in Appendix 4.12. Fixed noise assessment is based on the methodology described in Section 4.6.1 and calculation inputs are presented in Appendix 4.15 to 4.17. Aircraft noise assessment is based on the methodology described in Section 4.7.1 Rail airborne assessment is based on the methodology described in Section 4.8.1 and calculation inputs are presented in Appendix 4.18 to 4.20. Rail groundborne assessment is based on the methodology described in Section 4.9.1 and calculation inputs are presented in Appendix 4.22 to 4.23. Helicopter noise assessment is based on the methodology described in Section 4.10.1 and calculation inputs are presented in Appendix 4.24 to 4.25. Marine traffic noise assessment is based on the methodology described in Section 4.11.1 and calculation inputs are presented in Appendix 4.26 to 4.28. Water Quality – the methodologies for individual water quality impact assessments are presented in Section 5.3. Additional calculations, model setup and input information are presented in Appendix 5.2a to 5.4a and 5.5. Sewerage and Sewage Treatment Implications – the assumptions and parameters adopted for assessment of sewerage scenarios, including calculations are presented in Section 6.3 to 6.5. Waste – the assessment method for waste related activities associated with the project include analysis of construction / operation phase activities and waste generation, estimation of waste quantities and development of proposals for waste management. These are described in Section 7.2. Land Contamination – the assessment method comprises desktop appraisal and site reconnaissance, followed by sampling and testing where necessary. This is described in Section 8.2. Terrestrial Ecology – field surveys were conducted to provide the data for assessment of ecological impacts. Methodology for ecological baseline establishment including the field surveys are detailed in Section 9.3. Fisheries – the fisheries impact assessment methodology comprises literature review and fishermen interview surveys. These are described in Section 10.5. Landscape & Visual – the landscape and visual impact assessment methodology including the method for identifying the magnitude and significance of impacts are described in Section 11.3. Cultural Heritage – the assessment methodology including methodology for undertaking marine archaeological investigation is described in Section 12.3.

Specific Requirements	Compliance Check
<b><u>ANNEX 11: CONTENTS OF AN ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT</u></b>	
<b><u>IDENTIFICATION OF ENVIRONMENTAL IMPACTS</u></b>	<p>Air Quality – air sensitive receivers are shown in Figures 3.1 to 3.1e. The potential sources of construction phase air quality impacts are identified in Section 3.4.2. Sources of operation phase air quality impacts are identified in Sections 3.5.2.</p> <p>Noise – representative noise sensitive receivers are shown in Figure 4.5 to 4.13. For construction airborne noise assessment, the noise sources that may general noise impacts are described in Section 4.3.2. Construction groundborne noise sources are identified in Section 4.4.2. Fixed plant noise sources are identified in Section 4.6.2, while road traffic and aircraft noise sources are identified in Section 4.5.2 and 4.7.2 respectively. Rail airborne and groundborne noise sources are identified in Section 4.8.2 and 4.9.2 respectively. For helicopter and marine traffic noise assessment, respective noise sources are idntified in Section 4.10.2 and 4.11.2.</p> <p>Water Quality – potential water quality impacts associated with the project during construction and operation phase are described in Section 5.4 to 5.5. Water sensitive receivers are identified and listed in Section 5.3.2 and shown in Figure 5.1.</p> <p>Sewerage and Sewage Treatment Implications – the sewerage resources and potential sewerage impacts due to the project are identified in Section 6.5.</p> <p>Waste – both construction phase and operation phase waste activities and impacts have been identified in Section 7.3.2 and 7.3.3. Construction phase impacts considered include waste from C&amp;D materials, excavated marine sediment, chemical waste, general refuse and floating refuse. Operation phase impacts identified include general refuse, chemical waste and floating refuse.</p> <p>Land Contamination – identification of potential impacts is mainly through a review of information on the existing land uses of the project area, including review of information from government departments, aerial photographs, and site surveys. Details are provided in Section 8.2.</p> <p>Ecology – the ecological baseline conditions are described in Section 9.4 while potential impacts are identified in Section 9.5.</p> <p>Fisheries – direct and indirect impacts to fisheries resources due to the project activities have been identified and are presented in Section 10.7.</p> <p>Landscape &amp; Visual – The potentially affected landscape resources, landscape character areas and visually sensitive receivers are identified and described in Section 11.6 and 11.10 respectively.</p> <p>Cultural Heritage – the cultural resources that may be affected by the project have been identified in Section 12.4 and 12.6 and are shown in Figure 12.2.</p>
<b><u>PREDICTION AND EVALUATION OF ENVIRONMENTAL IMPACTS</u></b>	<p>- Prediction of environmental impacts (including beneficial or adverse; direct or indirect; short term or long term; reversible or irreversible; transboundary; cumulative)</p> <p>- Evaluation of predicted environmental impacts against applicable environmental legislation, policies, plans, standards and criteria</p> <p>Air Quality – the predicted construction phase air quality impacts are evaluated against the applicable criteria in Sections 3.4.5 and 3.4.7. The predicted operation phase air quality impacts are evaluated in Section 3.5.6.</p> <p>Noise – Construction airborne and groundborne noise impact are described and evaluated in Section 4.3.3 and 4.4.3 respectively, whereas road traffic noise and fixed noise impacts are evlauted in section 4.5.3 and 4.6.3. Aircraft noise impacts based on each of the assessment scenarios are described and evaluated in Section 4.7.3. Noise exposure forecast (NEF) contours were generated to predict the aircraft noise impact. For rail airborne and groundborne noise impact, predictions and evaluations are in Section 4.8.3 and 4.9.3. Helicopter noise and marine traffic noise are evaluated in Section 4.10.3 and 4.11.3.</p> <p>Water Quality – the predicted water quality impacts for both construction and operational phase are presented and evaluated against their relevant criteria in Section 5.4.2, 5.5.5-5.5.7 and 5.6.6. Results are presented in Appendix 5.4b, 5.6 to 5.7.</p> <p>Sewerage and Sewage Treatment Implications – the existing sewerage infrastructure and proposed mitigation measures are described in Section 6.7.</p> <p>Waste – based on the identified waste types and waste generating activities, the quantities and potential impacts associated with each type of waste has been assessed and described in Section 7.32 nad 7.3.3. Reference is made to applicable standards and requirements.</p> <p>Land Contamination – potential impacts due to land contamination has been evaluated based on the findings obtained from review of historical records and aerial photographs as well as from the site survey. The evaluation is presented in Section 8.3.1. Further site reappraisal is proposed.</p> <p>Ecology – the impacts to terrestrial ecology was evaluated and the findings are presented in Section 9.6.The impacts to marine ecology are evaluated in Section 9.7. Cumulative impacts are identified and evaluated in Section 9.11.</p> <p>Fisheries – predicted impacts to fisheries include direct loss of fishing ground and fishing habitat, loss of spawning or nursery ground, and direct loss of the fisheries resources, as well as indirect loss to fisheries habitats due to water quality, impacts on aquaculture sites / artificial reefs and disturbance to fishing activities and fisheries resources. Details are presented in Section 10.7. Cumulative impacts are presented in Section 10.9.</p> <p>Landscape &amp; Visual – landscape impacts both before and after mitigation during construction and operation phases have been predicted and evaluated in Section 11.6 and 11.8. Visual impacts are evaluated and presented in Section 11.10. Cumulative impacts are presented in Section 11.13.</p> <p>Cultural Heritage – evaluation of the impacts to cultural heritage resources in the study area is presented in Section 12.4 and 12.6.</p>
<b><u>MITIGATION OF ADVERSE ENVIRONMENTAL IMPACTS</u></b>	<p>- Measures to eliminate, reduce or remedy adverse environmental impacts</p> <p>Air Quality – recommended mitigation measures to be implemented during construction phase are described in Section 3.4.6. No mitigation measure is required for operational phase.</p> <p>Noise – mitigation measures for construction airborne noise are presented in Section 4.3.4. No mitigation measures are required for construction groundborne noise. Road traffic noise mitigations are detailed in Section 4.5.4, while fixed plant noise mitigation measures are described in Section 4.6.4. Mitigation measures to be implemented for rail airborne noise are described in Section 4.8.4. For aircraft noise, rail groundborne, helicopter and marine traffic noise, no mitigation measures are required.</p> <p>Water Quality – mitigation measures recommended for minimisation of water quality impacts are presented in Section 5.4.3, 5.5.8 and 5.6.10.</p> <p>Sewerage and Sewage Treatment Implications – measures to mitigate the potential sewerage impacts associated with the project are presented in Section 9.7. The potential secondary impacts associated with proposed upgrading works for the gravity sewer have also been addressed.</p> <p>Waste – measures have been recommended to reduce and remedy potential waste related impacts due to the project. These include opportunities for reuse / recycling, good site practices and waste reduction / management measures. Details are provided in Section 7.4.</p> <p>Land Contamination – depending on the findings of the further site investigation to be conducted after land acquisition, and in the event of contaminated areas, possible remediation measures have been proposed. These are described in Section 8.5.</p> <p>Terrestrial Ecology – mitigation measures were recommended including avoidance and minimisation measures. These are detailed in Section 9.8.3. Enhancement measures in Section 9.12.</p> <p>Marine Ecology – mitigation measures have been proposed in Section 9.8.4.</p> <p>Fisheries – impact avoidance, minimisation and mitigation measures are described in 10.8. These are detailed in Section 14.9.</p> <p>Landscape &amp; Visual – various design, landscaping, and aesthetic improvement measures have been recommended to mitigate landscape and visual impacts. Proposed mitigation measures to be implemented during construction and operation phase for both landscape and visual impacts are presented in Section 11.7.3.</p> <p>Cultural Heritage – mitigation for terrestrial archaeology are presented in Section 12.5.1 and 12.7.1. No mitigation measures are required for marine archaeology and built heritage.</p>
<b><u>DEFINITION AND EVALUATION OF RESIDUAL ENVIRONMENTAL IMPACTS</u></b>	<p>- Definition and evaluation of net environmental impacts with mitigation measures in place</p> <p>Air Quality – No adverse residual impacts are anticipated during both construction and operational phases.</p> <p>Noise – for noise assessments, the evaluation shows that there will be no residual impacts with the mitigation measures (where applicable) in place.</p> <p>Water Quality – the findings of the water quality impact assessment has shown that with the mitigation measures in place, there would be no adverse residual impact due to the project.</p> <p>Sewerage and Sewage Treatment Implications – there would be no residual impacts with the implementation of recommended mitigation measures.</p> <p>Waste – with the implementation of the recommended mitigation measures, no adverse residual impacts are anticipated during construction and operation phase.</p> <p>Land Contamination – in the event of any contaminated areas identified, remediation measures will be implemented to clean up the area to levels that comply with the relevant guidelines. As such, no residual impact due to land contamination is anticipated.</p> <p>Ecology – The residual terrestrial impacts would include loss of dry abandoned agricultural land, dry active agricultural, shrubland/grassland and watercourse which are common types in HK. The residual marine ecological impacts include loss of coastal marine waters habitat which is also common in western HK waters.</p> <p>Fisheries – not applicable as no residual impacts are identified.</p> <p>Landscape &amp; Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.8 and 11.12.</p> <p>Cultural Heritage – No residual impacts are anticipated.</p>

Specific Requirements	Compliance Check
<b><u>ANNEX 11: CONTENTS OF AN ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT</u></b>	
<b><u>ENVIRONMENTAL MONITORING AND AUDIT</u></b>  - Need for and scope of monitoring and audit - Environmental monitoring and audit requirements, if found to be necessary, and the related environmental monitoring and audit programme	The need for environmental monitoring and audit, where applicable, is presented in Chapter 13. The details relating to the environmental monitoring and audit requirements, methods and programme are presented in the Environmental Monitoring and Audit Manual.
<b><u>CONCLUSIONS AND RECOMMENDATIONS</u></b>	A summary of the conclusions and recommendations arising from each environmental assessment is summarised in Chapter 15.
<b><u>SCHEDULE OF RECOMMENDED MITIGATION MEASURES</u></b>  - A schedule of all mitigation measures recommended in the EIA report, listing out what the mitigation measures are, by whom, when, where and to what requirements, and including the key environmental monitoring and audit requirements	A schedule of all mitigation measures recommended in the EIA report, including by whom, when, where and to what requirements are tabulated for each technical aspect in the EMIS.
<b><u>APPENDIX</u></b>  Responses to comments received	Response to comments received from government departments have been provided to the relevant parties separately.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
<b><u>I. General Approach</u></b>		
<b>Organisation of the Information</b>		
1.1	Is information logically arranged in sections ?	The EIA has been divided into 15 chapters following the order that is presented in the EIA Study Brief. All chapters also contain sub sections following a logical order.
1.2	Is the location of information identified in an index or table of contents ?	A table of contents is provided at the beginning of the EIA report.
1.3	When information from external sources has been introduced, has a full reference to the source been included ?	References to external sources adopted by individual chapters are listed within or at the end of each individual chapter.
<b>Presentation of Information</b>		
1.4	Has information and analysis been offered to support all conclusions drawn ?	Air Quality – background information, methodology, approach and results analysis have been given in Chapter 3 and illustrated with figures. Detailed results are provided in the appendices. Conclusions are drawn with the support of the above mentioned items. Noise – Conclusion is drawn from the findings of noise impact assessment, where quantitative analysis were carried out based on methodologies as listed out in Section 4.3 (Construction Airborne Noise), 4.4 (Construction Groundborne Noise), 4.5 (Road Traffic Noise), 4.6 (Fixed Noise), 4.7 (Aircraft Noise), 4.8 (Rail Airborne Noise), 4.9 (Rail Groundborne Noise), 4.10 Helicopter Noise and 4.11 (Marine Traffic Noise). Water Quality – the conclusion is drawn from the findings of the water quality impact assessment. Quantitative results support the findings from the quantitative analysis, while information based on past project references and proposed / committed methods and practices have been provided to support the conclusions of the qualitative analysis. Sewerage and Sewage Treatment Implications – conclusion is drawn from the findings of the sewerage and sewage impact assessment. Quantitative analysis has been carried out, and presented in Section 6.5. Waste – Quantity, quality and timing of waste generation from construction phase (site clearance wastes, site formation wastes, construction of buildings and structures, excavated marine sediments, chemical waste, general refuse, sewage and floating refuse) are summarised in Table 7.3. Land Contamination – Potential contaminated land uses were identified on the areas where development will be carried out and relevant land contamination assessment and proposed measures are provided in Chapter 8. Ecology – the conclusion is drawn from the analysis of information gathered from literature review of approved EIAs and EM&A reports, published and unpublished scientific studies, and updated ecological field surveys. The impact evaluation for ecology was conducted in Section 9.6 and Section 9.7. Fisheries – the conclusion is drawn from the analysis of information gathered from literature review of approved EIAs and EM&A reports, AFCD Port Survey 2006, published and unpublished scientific studies, and updated fisheries field surveys and water quality modelling results. The impact evaluation for fisheries was conducted in Section 10.7. Landscape & Visual – The most current and most relevant information available has been researched and analysed to produce and support all findings and conclusions drawn in the assessment. Cultural Heritage – information on the cultural heritage within the study area has been reviewed and analysis has been conducted in Section 12.4 and Section 12.6.
1.5	Has information and analysis been presented so as to be comprehensive to the non-specialist using maps, tables and graphical material as appropriate ?	Air Quality – Care has been taken to explain technical findings and keep superfluous information to a minimum. Detailed descriptions/ information are given in the appendices. Predicted air pollutant concentrations at discrete air sensitive receivers are presented in relevant summary tables in Chapter 3. Contours of pollutant concentrations have also been used to illustrate the compliance level. Noise – Assessment results have been summarised in tables, against relevant noise criteria for easy comparison throughout Chapter 4. Drawings have been used to illustrate locations of construction activities, modelling assumptions for road traffic noise assessment. Water Quality – results from both construction and operation phase quantitative assessments have been presented in the form of contour maps that are easy for non-specialist readers to understand. Drawings have been used to illustrate construction / operation phase activities and mitigation measures where appropriate. Sewerage and Sewage Treatment Implication – the information and analysis have been presented in the comprehensive quantitative assessments in the form of tables. Waste – Tables are provided in chapter 7 to present the information and analysis. Land Contamination – Potential land contamination sites identified in Section 8. Historical aerial photographs were reviewed and shown in Appendix 8.1. Ecology – Baseline information was presented in form of summary tables in Appendices. Key findings were presented in form of distribution maps and habitat maps in suitable scale with locations of species of conservation importance recorded were also provided. Fisheries – Baseline information was presented in form of summary tables and graphs in Appendices. Key findings were presented in maps with locations of sites of fisheries importance identified. Landscape & Visual – The information and analysis presented within the report has been clearly and logically defined in a simple and straightforward approach. Information and analysis has been illustrated and tabulated in Chapter 11 with supporting drawings shown in figures. Cultural Heritage – the information and analysis has been presented with maps and tables where appropriate. Maps and photos have also been presented as part of the results.
1.6	Are all the important data and results discussed in an integrated fashion within the information ?	Air Quality – Important data and results are summarised in the form of tables in Chapter 3, which are clearly referred to and discussed in the Chapter. Noise – Results have been presented in tables together with information integrated into detailed discussion. Water Quality – discussion of the results is integrated with the presentation of the data results to enable a logical discussion. Sewerage and Sewage Treatment Implication – discussion of the results is integrated with the presentation of the data results to enable a logical discussion Waste – The types and quantities of construction and operational wastes required to be disposed of are estimated and the disposal methods are summarised in Chapter 7. Land Contamination – Past land uses history were reviewed with the aid of records received from relevant government departments and historical aerial photographs in Chapter 8. Present land use and site reconnaissance surveys were undertaken to identify the present land use. Ecology – The evaluation of ecological importance of the key habitats/sites of conservation importance were conducted base on the integration of baseline information collected from literature review and field survey findings as presented in Chapter 9. The impact evaluation was carried out based on the ecological evaluation and other criteria as listed under the EIAO-TM Annex 8. Fisheries – The identification of sites of fisheries importance was based on the consolidate review of baseline information collected from literature review and updated field survey findings. The summary of baseline conditions was presented in Chapter 10. The impact prediction and evaluation was carried out based on the baseline conditions and criteria as listed under the EIAO-TM Annex 9. Landscape & Visual – All important data and findings are discussed clearly and logically within the report with the use of drawings, tables and clearly articulated text in Chapter 11. Cultural Heritage – discussion of literature review data and summary results have been presented with the information integrated into the discussion in Chapter 12.
1.7	Has superfluous information (ie information not needed for the decision) been avoided ?	Air Quality – superfluous information has been avoided and is not included in the air quality impact assessment. Noise – Superfluous information has been to avoided in Chapter 4. Water Quality – unnecessary information has been removed from the chapter. Sewerage and Sewage Treatment Implications – only the necessary information has been presented in the chapter. Waste – Information not needed for the decision has not been discussed. Land Contamination – Information not needed for the decision has not been discussed. Ecology – The technical information and details of the literature review and field survey findings were provided in Appendices where appropriate. Key findings were summarised in the main text to avoid superfluous information. Fisheries – The technical information and details of the literature review and field survey findings were provided in Appendices where appropriate. Key findings were summarised in the main text to avoid superfluous information. Landscape & Visual – The Landscape and Visual Impact assessment does not include any unnecessary information. Cultural Heritage – the information presented in the assessment are considered to be required as per EIA Study Brief requirements, and unnecessary information have been avoided.
1.8	Has the information been presented in a concise form with a consistent terminology and are there logical links between different sections ?	Air Quality – The information been presented in a concise form with consistent terminology and logical links among different sections. Noise – Information has been presented in a concise form and uses the same terminology throughout the chapter. Relevant links have been provided to refer between different sections. Water Quality – the structure of the chapter follows the standard structure of the EIA report and uses the same terminology. The chapter is presented in a logical order and where applicable, relevant links are provided to refer between sections. Sewerage and Sewage Treatment Implications – the structure of the chapter follows the standard structure of the EIA report and uses the same terminology. The chapter is presented in a logical order and where applicable, relevant links are provided to refer between sections. Waste – The chapter is discussed in accordance to Annex 7 and 15 of the TM. Land Contamination – The chapter is discussed in accordance to Sections 3.1 and 3.2 of Annex 19 of the TM. CAP is included in the Appendix 8.1 and upon availability of areas for SI, CAR and RAP, if needed, will be prepared as mentioned in Chapter 8. Ecology – the structure of the chapter follows the standard structure of the EIA report and uses the same terminology. The chapter is presented in a logical order and where applicable, relevant links are provided to refer between sections and chapters. Fisheries – the structure of the chapter follows the standard structure of the EIA report and uses the same terminology. The chapter is presented in a logical order and where applicable, relevant links are provided to refer between sections and chapters. Landscape & Visual –The report has been rationally formatted in order to present a concise and reasoned assessment. Consistent terminology is use throughout the chapter and references to other sections of the report have been provided. Cultural Heritage – the information has been presented in a consistent form and are kept concise where possible. References have been provided to link between different sections where necessary.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
1.9	Have prominence and emphasis been given to severe adverse impacts, to substantial environmental benefits, and to controversial issues ?	Air Quality – No severe adverse impacts are anticipated during both construction and operation phases. Initiatives to reduce air pollutant emissions from construction activities and operations, which can help alleviate the air quality impacts, have been appropriately discussed in Chapter 3. The potential controversial issues would be about compliance with the new AQOs, which has been fully addressed in the air quality impact assessment. Noise – With implementation of noise mitigation measures recommended in the EIA report, no adverse impacts, substantial environmental benefits, and controversial issues for noise impacts are anticipated. Water Quality – analysis of the results have given prominence to the more severely affected water sensitive receivers in determining recommended mitigation measures. The substantial environmental benefit of using non-dredged reclamation method has also been emphasised. Sewerage and Sewage Treatment Implications – No adverse impact is anticipated. Waste – No adverse impact is anticipated. Land Contamination – No adverse impact is anticipated. Ecology – analysis of the results have given prominence to the more severely affected ecological sensitive receivers. Mitigation measures to avoid the potential disturbance impact have been proposed. Fisheries – analysis of the results have given prominence to the more affected fisheries impacts in determining recommended mitigation measures. Landscape & Visual – Severe adverse impacts on the landscape and visually sensitive receivers have been discussed thoroughly in Chapter 11. Cultural Heritage – prominence and emphasis has been given to the terrestrial and marine archaeological investigation.
1.10	Is the information objective ?	Air Quality – All information adopted for the relevant air quality modelling and impact assessment is based on best available data, references and assumptions, which have been scrutinized/ endorsed by relevant authorities. Conclusions are drawn with the support of assessment results. Noise – Information adopted for various noise assessments such as construction plant inventory and traffic forecast for operational phase have been reviewed by relevant government department / authorities. Water Quality – both quantitative and qualitative assessments are based on data which have been verified and agreed from the project engineers. Sewerage and Sewage Treatment Implications– both quantitative and qualitative assessments are based on data given by the DSD/ EPD. Waste – Information is based on best available data and is objective. Land Contamination – Information is based on best available data and site observations and is objective. Ecology – both quantitative and qualitative assessments are based on data from approved EIAs, EM&A reports and updated field surveys conducted. Data from other projects are taken from published sources or are based on information provided by the respective project proponents. Fisheries – both quantitative and qualitative assessments are based on data from approved EIAs, EM&A reports and updated field surveys conducted. Data from other projects are taken from published sources or are based on information provided by the project proponents. Landscape & Visual – Information provided in the assessment is quantified (where possible), qualitative, and factual. The assessment findings have been carefully considered with conclusions reflecting an objective assessment. Cultural Heritage – the assessment has taken into account the findings of the geophysical surveys and diver surveys to determine the archaeological potential of the study area and is considered to be objective.
<b>Public Concerns</b>		
1.11	Does the information identify and address the main concerns of the general public and special interest groups (clubs, societies etc) who may be affected by the project.	Air Quality – Public and special interest groups’ concerns relating to air pollution and representative air sensitive receivers within the assessment areas have been taken into consideration. Impacts on the sensitive receivers due to the key pollutants including NO2, SO2, FSP, RSP and CO have been assessed against the relevant legal requirements. Noise – Public and special interest groups’ concerns and views from public forum relating to road traffic noise and representative noise sensitive receivers within the assessment areas have been taken into consideration. Potential noise impacts from construction noise, road traffic noise, fixed noise, aircraft noise, rail noise, helicopter noise and marine traffic noise on the identified NSRs have been assessed against relevant criteria. Water Quality – the main water quality concerns identified by public and special interest groups (e.g. reclamation method) have been captured and addressed in the water quality impact assessment. Sewerage and Sewage Treatment Implications – General public concerns on the design of future sewage system and it has been addressed in sewage impact assessment. Waste – The information identifies and address the main concerns of the general public who may be affected by the project. Land Contamination – The information identifies and addresses the main concerns of the general public who may be affected by the project. Ecology – the main public concerns on Tung Chung River have been identified and addressed. literature reviews and ecological surveys were conducted to collect baseline information for the support of impact assessment. Fisheries – the main public concerns of the loss of fisheries habitats and resources within the project footprint have been reviewed. The potential impacts have been identified and assessed, mitigation measures were proposed to minimise the impacts. Landscape & Visual – The assessment addresses the main concerns of the general public affected by the project. The general public are included as visually sensitive receivers and their level of impact has been assessed accordingly. Cultural Heritage – no major concerns from the general public and special interest groups were raised regarding cultural heritage.
1.12	Does the information take account of the main concerns of the relevant statutory or advisory bodies.	Air Quality – the methodology of the assessment followed the EIAO-TM and the EIA Study Brief requirements and has been agreed by the relevant statutory and advisory bodies. Noise – The noise impact assessment have strictly followed the EIA Study Brief requirement and EIAO-TM. Advisory comments from EPD, CAD and other relevant statutory bodies have been taken into consideration in all noise impact assessments. Water Quality – the main concerns of the statutory and advisory bodies have been accounted for in the water quality impact assessment. Sewerage and Sewage Treatment Implication – the assessment is conducted by strictly following the requirement specified in the EIA Study Brief. Waste – The Public Fill Committee and Marine Fill Committee has been contacted about the project in the C&D MMP separately submitted. Land Contamination – The Contamination Assessment Plan (CAP) is submitted to DEP for endorsement as shown in Appendix 8.1. Ecology – The statutory and advisory bodies have been consulted during the course of the EIA, the concerns relate to the proposed works within Tung Chung Valley has been considered and addressed in the impact assessment. Fisheries – the statutory, advisory bodies and marine stakeholders have been consulted during the course of the EIA. The main concern relate to the loss of fisheries habitats, resources and fishing ground due to the project have been considered and addressed in the impact assessment. Landscape & Visual – The relevant statutory and advisory bodies have provided comment on the LVIA chapter, such comments were taken into account when revising the text. The assessment addresses the main concerns of the relevant statutory and advisory bodies. Cultural Heritage – relevant statutory and advisory bodies have been consulted as part of the submission of the draft EIA reports, and comments from various parties have been addressed.
<b>2. Description of the Project</b>		
<b>Features of the Project</b>		
2.1	Are the purpose(s) and objectives of the project explained ?	The purpose and objectives of the project have been explained in Section 1.1 and Section 1.6.
2.2	Are the nature and status of project decision(s), for which the EIA study is undertaken, clearly indicated ?	The main components of the project for which the EIA study is undertaken has been described in Section 1.2.
2.3	Is the estimated duration of the construction phase, operational phase and, where appropriate, decommissioning phase given, together with the programme within these phases ?	The estimated duration and programme for the project is described and presented in Section 2.9.
2.4	Is the design and size of the project described, using diagrams, plans and/or maps as necessary ?	The design and size of the project is presented in Chapter 1 and 2. Figures and drawings have been used in Chapter 1 and 2 to illustrate this.
2.5	Are the methods of construction described ?	Construction methodologies for land uses and design are described in Section 2.6.
2.6	Are the nature and methods of production or other types of activity involved in operation of the project described ?	The nature of operation of the project is described in Section 1.1.
2.7	Has the land taken up by the project site(s), construction sites, and any associated access arrangements, auxiliary facilities and	The project boundary and main components are clearly shown in figures in Chapter 1 and 2. Further details of individual construction areas are presented in map form in individual technical sections wherever applicable.
2.8	For a linear project, has the land corridor, vertical and horizontal alignment and need for tunnelling, and earthworks been described ?	Not applicable.
2.9	Have the uses to which the project will be put been described and the different land use areas demarcated ?	The uses of the project and different land areas are described in Section 2.4 and presented in Figures 2.2 and 2.3.
<b>Residues and Emissions</b>		
2.10	Have the types and quantities of waste matter, energy (noise, vibration, light, heat, radiation etc) and residual materials generated during construction and operation of the project, and the rate at which these will be produced, been estimated ?	Air Quality – the key activities that would potentially result in dust emissions during construction phase of the project have been identified and the associated dust emission rates are estimated based on best available information. Similarly, emissions of criteria pollutants during operation phase have also been quantified. Noise – Noise impacts generated throughout the construction period have been estimated quantitatively based on the type and quantity of powered mechanical equipment expected to be used for scheduled construction activities. Potential noise impacts on identified NSRs during operation phase from fixed plant, road traffic and marine traffic were also assessed quantitatively where applicable. Aircraft noise under different operation scenario were also assessed and presented in the form of contours on drawings. Water Quality – types and quantities of wastewater from various construction activities have been estimated and evaluated. Wastewater from the drainage system and sewage generated etc. during operation phase have also been estimated and assessed. Sewerage and Sewage Treatment Implication – Sewage arising from the project during operation phase have also been estimated and assessed. Waste – Quantity, quality and timing of waste generation from construction phase and operational phases are summarised in Section 7.3. Land Contamination – Potentially contamination assessment areas are discussed in Section 8.3. All other technical chapters – not applicable

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
2.11	Have the ways in which it is proposed to handle and/or treat these wastes and residual materials prior to release/disposal been indicated, together with the routes by which they will eventually be disposed of to the environment ?	Air Quality – Not relevant Noise – Measures to reduce various noise impact are proposed and discussed in Chapter 4. Water Quality – the proposed handling / treatment method of the wastewater generated during construction and operation phase has been identified and the eventual disposal location has been indicated as part of the assessment. Sewerage and Sewage Treatment Implication – the proposed handling of the sewage generated during construction and operation phase has been identified as part of the assessment. Waste – Transportation routings for various construction and operational wastes are described in Section 7.3. Land Contamination – Possible remediation measures was discussed in Appendix 8.1. All other technical chapters – not applicable
2.12	Have any special or hazardous wastes which will be produced been identified as such and the methods for their disposal been described, as regards their likely main environmental impacts?	Waste – Chemical waste to be generated from construction and operation phase and disposal method are discussed in Sections 7.3 and 7.4. All other technical chapters – not applicable
2.13	Have the means by which the quantities of residuals and wastes were estimated been indicated and has uncertainty been acknowledged and ranges provided where appropriate ?	Not applicable.
<b>3. Background and History of the Project</b>		
3.1	Where appropriate does the information include reference to the consideration of the project's siting or alignment by the project proponent ?	Consideration of alternatives for Project elements and construction methodologies are presented in Section 2.5 and Section 2.7.
3.2	Are the reasons for selecting the proposed project or its siting and alignment, and the part environmental factors played in the selection, adequately described ?	The reasons for selecting the preferred option are presented in Section 2.5 and Section 2.7.
3.3	Have the main environmental impacts of different siting or alignment options been compared clearly and objectively with those of the proposed project and with the likely future environmental conditions in the absence of the project ?	The main environmental impacts of alternatives have been clearly compared in Section 2.5 and 2.7. The likely future environmental conditions in the absence of the project is considered as part of the Need of the Project in Section 2.1.
<b>4. Description of the Environment</b>		
<b>Description of the Area Occupied by and Surrounding the Project</b>		
4.1	Have the areas expected to be significantly affected by the various aspects of the project been indicated with the aid of suitable maps ?	Air Quality – Locations of representative air sensitive receivers within the assessment areas are shown in figures in Chapter 3. Noise – Potential affected areas and locations of noise sensitive receivers identified for various noise assessments are shown in figures in Chapter 4. Water Quality – The potentially affected water sensitive receivers are shown in Figure 5.1 in Chapter 5. Sewerage and Sewage Treatment Implication – The existing, planned and proposed sewerage network for the sewage impact assessment is shown in figures in Chapter 6. Waste – The proposed sediment sampling locations for TCE is shown in Figure 7.1 in Chapter 7. Land Contamination – Aerial photographs are used for review of past land uses and are discussed in Section 8.2 as well as shown in Appendix 8.1. The project area is provided in figures in Chapter 8. Ecology – The locations of species of conservation importance recorded and habitat maps are shown in figures in Chapter 9. Fisheries – The distribution of fisheries production and key findings of Port Survey 2006 from literature review were presented in figures in Chapter 10. Landscape & Visual – The areas to be affected by the project have been clearly illustrated at appropriate scales on figures in Chapter 11. Cultural Heritage – The study area for terrestrial archaeology, marine archaeology and built heritage resources have been indicated in figures in Chapter 12.
4.2	Have the land uses on the site(s) and in the surrounding areas been described ?	Air Quality – Existing land uses on the sites and in the surrounding areas have been described in Sections 3.2. Noise – Existing land uses on the site and in the surrounding areas been described in Section 4.2. Water Quality – the potential sources of wastewater / stormwater generated by the future land uses have been described in Section 5.6. Sewerage and Sewage Treatment Implication – the population data have been presented in Appendices in Chapter 6. Waste – The each type of waste to be generated on-site due to the future land use is identified in Section 7.3. Land Contamination – The review of historical land use and geology, site survey were included in Section 8.2. Ecology – The ecological baseline conditions and sensitive habitats were described in Sections 9.4. Details of baseline conditions from literature review and field survey findings were presented in Appendices in Chapter 9. Fisheries – Details of baseline conditions from literature review and field survey findings were presented in figures in Chapter 10. Landscape & Visual – The land uses on the site have been described in Section 11.4 and 11.5 and clearly illustrated at an appropriate scale in figures in Chapter 11. Cultural Heritage – The baseline conditions of the site and surrounding areas including land use have been reviewed and presented in Section 12.2.
4.3	Has the affected environment been defined broadly enough to include any potentially significant effects occurring away from the immediate areas of construction and operation ?	Air Quality – According to the EIA Study Brief, the construction and operational phase air quality impacts are assessed within the 500 m assessment area from the project boundary. Such assessment areas are adequate to cover potentially significant effects occurring away from the immediate areas of construction and operation. Noise – The assessment areas for noise assessment was defined in accordance with the EIA Study Brief or proposed and was agreed by EPD. Water Quality – the study area of the water quality impact assessment follows the requirements of the EIA Study Brief which defines the study area to cover the North Western, North Western Supplementary, Western Buffer and Deep Bay water control zones. Sewerage and Sewage Treatment Implication – the study area of the sewage impact assessment follows the requirements of the EIA Study Brief which defines the study area to cover the North Lantau. Waste – The affected environment been defined broadly enough to include any potentially significant effects occurring away from the immediate areas of construction and operation. Land Contamination – The affected environment been defined broadly enough to include any potentially significant effects occurring away from the immediate areas of construction and operation. Ecology – The study area of the terrestrial ecological impact assessment follows the requirements of the EIA Study Brief which defines the Tai Ho Stream SSSI, San Tau Beach SSSI etc. and any other areas likely to be impacted by the Project. The assessment has also covered 500 m from the Project Boundary. For marine ecological impact assessment, the assessment area is the same as teh assessment area for water quality assessment.  Fisheries – The study area of the fisheries impact assessment follows the requirements of the EIA Study Brief which defines the study area to cover the North Western, North Western Supplementary, Western Buffer and Deep Bay water control zones. Special attention has been given to potential loss or disturbance to fishing grounds, fisheries habitats, spawning or nursery grounds etc. associated with both the construction and operation of the project. Landscape & Visual – The limit of the landscape impact study is 500m beyond the boundary of the works (as stated in the EIA study brief). The limit of the visual impact study is the visual envelope of the Project. Cultural Heritage – The study area for the cultural heritage assessment has been defined to cover areas outside the immediate project boundary.
<b>Baseline Conditions</b>		
4.4	Have the components of the environment potentially affected by the project been identified and described sufficiently for the prediction of impacts ?	Air Quality – Baseline concentrations of relevant air pollutants in the project area in past five years have been reviewed in Sections 3.3. Noise – The potential noise sources of the project have been identified and described in Section 4.2 Water Quality – the potential sources of water quality impact due to the project have been identified and described in Section 5.2. Sewerage and Sewage Treatment Implications – the potential sources of sewage impact due to the project has been identified in Sections 6.3 - 6.4. Waste – The components of the environment potentially affected by the project have been identified and described sufficiently for the prediction of impacts. Land Contamination – The components of the environment potentially affected by the project have been identified and described sufficiently for the prediction of impacts. Ecology – Baseline conditions were summarised in Section 9.4. Fisheries – Baseline conditions were summarised in Section 10.4. Landscape & Visual – Landscape Resources and Landscape Character Areas have been identified, quantified (where possible), and described in detail in Section 11.4. Visually Sensitive Receivers have been identified and described in Section 11.8. Cultural Heritage – cultural heritage resources that may be affected by the project have been identified in Section 12.2 and have been described in sufficient detail to enable prediction of impacts.
4.5	Were the methods used to investigate the affected environment appropriate to the size and complexity of the assessment task ?	Air Quality – The methods used to assess air quality impacts are appropriate to the size and complexity of the assessment task, and have been developed in accordance with the EIA Study Brief requirements. The assessment methods have been agreed by EPD. Noise – The methods used to investigate various noise impacts follow the EIA Study Brief requirements. Method used for noise assessment is internationally adopted, in accordance with EIA Study Brief requirements, and agreed with EPD. Water Quality – quantitative assessment using a 3-dimensional model was adopted for both construction and operation phase assessments, which follows the EIA Study Brief requirements. Where qualitative assessment is adopted, prior acceptance by EPD has been obtained. Sewerage and Sewage Treatment Implications – the methods adopted follows the EIA Study Brief requirements and are appropriate for the project. Waste – The assessment methodology of the waste management issues associated with construction and operation phases is described in Section 7.2. Land Contamination – The assessment methodology of land contamination issues associated with construction and operation phases is described in Section 8.2. Ecology – The impact evaluation was in accordance to EIAO-TM Annexes 8 and 16. Fisheries – The impact evaluation was in accordance to EIAO-TM Annexes 9 and 17, where appropriate, water quality modelling results were made reference for the marine ecological impact assessment. Landscape & Visual – The LVIA chapter presents an assessment of the potential landscape and visual impacts in accordance with the TM-EIAO and the requirements of the EIA Study Brief. The methods used to investigate the affected landscape and visual environment were appropriate to the size and complexity of the project. The methods included site visits and desk-top studies of topographical maps, information databases, approved EIAs of the committed projects and aerial photographs. Cultural Heritage – The methods used to investigate terrestrial archaeology impact, marine archaeological impact, built heritage items include deskktp review and relevant surveys within the project.



Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
4.6	Has a prediction of the likely future environmental conditions in the absence of the project been developed ?	Air Quality – Without project scenario for operational air quality assessment. Noise – Prevailing project scenario for road traffic noise assessment. Water Quality – a ‘without project’ scenario has been developed and assessed as part of the operation phase quantitative assessment. Sewerage and Sewage Treatment Implication – Not applicable Waste – Not applicable Land Contamination – Not applicable Ecology – Not applicable Fisheries – for fisheries impact associated with water quality, a ‘without project’ scenario has been developed and assessed as part of the operation phase quantitative assessment. Landscape & Visual – Not applicable Cultural Heritage – Not applicable
4.7	Have existing technical data sources, including local records and studies carried out for environmental agencies and/or interest groups been searched ?	Air Quality – Historical air pollutant data from relevant EPD’s air quality monitoring stations has been identified for reference. Existing technical data sources, including local survey data and studies, have been searched and adopted in the assessment where appropriate. Noise – Existing data sources have been reviewed from approved EIA reports. Water Quality – existing data sources have been reviewed as part of baseline conditions presented in Section 5.2 and in compiling the pollution loading inventory for operation phase water quality impact assessment. Sewerage and Sewage Treatment Implications – not applicable Waste – The existing technical data sources have been searched. Land Contamination – The existing technical data sources have been searched and included in Section 8.2. Ecology – the literature review has covered both approved EIAs, EM&A, published and non-published scientific studies, records from nongovernment organisations and AFCD biodiversity survey. Fisheries – the literature review has covered both approved EIAs, EM&A, published and non-published scientific studies, information from other concurrent project proponents, records from non-government organisations and AFCD artificial reefs monitoring. Landscape & Visual – Existing technical data sources, including local records and studies have been researched and considered in the landscape and visual impact assessment and described in Sections 11.4 & 11.8. Cultural Heritage – existing data sources from various published records have been reviewed as part of the baseline review described in Section 12.2.
4.8	Have local, regional and national plans and policies been reviewed and other data collected as necessary to predict future environmental conditions ?	Air Quality – The local, regional and national plans and policies have been reviewed and mentioned in Section 3.1. Noise – Local, regional and national plans and policies have been reviewed and other data has been collected. Water Quality – relevant data have been reviewed iand mentioned in Section 5.1. Sewerage and Sewage Treatment Implications – The local, regional and national plans and policies have been reviewed and mentioned in Section 6.1. Waste – The local, regional and national plans and policies have been reviewed and mentioned in Section 7.1. Land Contamination – The local, regional and national plans and policies have been reviewed and mentioned in Section 8.1. Ecology – The local, regional and national plans and polices been reviewed, but the future environmental conditions could only be reviewed based on the best available information collected by the time of this study. Fisheries – The local, regional and national plans and policies have been reviewed and mentioned in Section 10.1. Landscape & Visual – The local, regional and national plans and policies have been reviewed and mentioned in Section 11.2. Cultural Heritage – The local, regional and national plans and policies have been reviewed and mentioned in Section 12.1.
4.9	Have relevant departments and agencies holding information on baseline environmental conditions been approached ?	Air Quality – EPD has been approached to collect the relevant historical air pollutant monitoring data of the project area. Noise – CAD and GFS has been approached to collect relevant information for helicopter noise impact assessment. Rail operator has been approached to collect relevant information for rail noise assessment. Water Quality – information from EPD’s monitoring stations are publically available and have been obtained for determining baseline conditions. Relevant departments and agencies have also been approached to obtain information on concurrent projects for adoption in the cumulative impact assessment. Sewerage and Sewage Treatment Implications – Not applicable. Waste – not applicable. Land Contamination – EPD and FSD have been contacted for dangerous goods storage and spillage records, chemical waste producer ergistration records and spillage records and discussed in Section 8.1. Ecology – AFCD, other potential concurrent project proponents, scientific studies from non-government organisation have been approached in seeking for baseline information. Fisheries – AFCD, other potential concurrent project proponents, scientific studies from non-government organisation have been approached in seeking for baseline information, including but not limited to the artificial reefs monitoring data and Port Survey 2006 from AFCD. Landscape & Visual – Relevant departments and agencies have been approached to receive applicable information regarding the baseline conditions and concurrent projects for the landscape and visual impact assessment outlined in Section 11.4 and 11.8. Cultural Heritage – information from AMO’s libraries and databases have been searched and reviewed as part of the baselinereview presented in Section 12.2.
<b>5. Description of Impacts</b>		
5.1	Have the direct and indirect/secondary effects of constructing, operating and, where relevant, after use or decommissioning of the project been considered (including both positive and negative effects) ?	Air Quality – Both the direct and indirect/secondary effects of constructing and operating the project have been considered. Noise – Direct and indirect/secondary noise impacts of the project have been considered in Chapter 4. Water Quality – direct effects from construction and operation phase have been identified in Section 5.4, 5.5 and 5.6. Indirect effects are considered as part of the water quality parameter interactions inherent in the operation phase model for assessing operation phase water quality impacts. Sewerage and Sewage Treatment Implications – Not applicable. Waste – The impact of waste generation from construction and operation phase are discussed in Section 7.3. Land Contamination – The impact of land contamination from construction is discussed in Section 8.3. Ecology – Direct and indirect impacts from construction and operation phase have been identified in Sections 9.5 to 9.7. Fisheries – Direct and indirect impacts of constructing and operating of the project have been identified in Section 14.6. Landscape & Visual – The direct and indirect impact of the construction and operating phases of the project have been considered in the assessment in Section 11.5 and 11.9. Cultural Heritage – both direct and indirect impacts on cultural heritage resources have been considered as part of the impact assessment in Section 12.4 and 12.6.
5.2	Does the information include consideration of whether effects will arise as a result of “consequential” development ie whether additional development, which it would be difficult to resist, will be included in the area, leading to further environmental effects ? For a project with multiple stages, are the impacts caused by overlapping of different stages considered and determined?	Air Quality – Air quality impacts during the entire construction period have been assessed. During operational phase, the air quality impacts have been assessed for the worst case year. Noise – Consequential developments have been considered and associated cumulative impacts assessed. Water Quality – consequential developments as a result of the project have already been incorporated as part of the project. Water quality assessments are based on worst case scenarios for construction phase and ultimate completion scenario for operation phase. Sewerage and Sewage Treatment Implications – sewage impact assessments are based on worst case scenarios for the project. Waste – Relevant construction activities and construction programme have been carefully planned and developed. Land Contamination – not applicable Ecology – consequential developments as a result of the project have been considered. Fisheries – consequential developments as a result of the project have been considered. Landscape & Visual – consequential developments as a result of the project have been considered. Cultural Heritage – consideration of consequential development due to other projects is outside the scope of the cultural heritage impact assessment.
5.3	Have the above types of impacts been investigated in so far as they affect the following: - air and climate; - water and soils; - noise; - landscape; - ecology; - historic and cultural heritage; - land use; - impacts on people and communities; - impacts on agriculture and fisheries activities.	Air Quality – Air quality impacts due to the project have been assessed in Chapter 3. Noise – Noise impacts have been investigated in Chapter 4. Water Quality - impacts to water quality have been investigated and addressed in Chapter 5. Sewerage and Sewage Treatment Implicationsl – The impacts to proposed sewage system have been investigated and addressed in Chapter 6. Waste – Impact assessment of the waste generation has been carried out and discussed in Chapter 7. Land Contamination – The impact of land contamination from construction is discussed in Chapter 8. Ecology – The impact to terrestrial and marine ecology have been investigated and addressed in Chapter 9. Fisheries – impacts to capture and culture fisheries activities have been investigated and addressed in Chapter 10. Landscape & Visual – The impacts on the landscape have been investigated in Chapter 11. Cultural Heritage– The impacts to cultural heritage have been investigated in Chapter 12.
5.4	If any of the above are not of concern in relation to the specific project and its location is this clearly stated in the information ?	All of the above are of potential concern in relation to the project and have been evaluated accordingly.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
5.5	Is the investigation of each type of impact appropriate to its importance for the decision, avoiding unnecessary information and concentrating on the key issues ?	Air Quality – The investigation of air quality impact has been carried according to the EIA Study Brief requirements and is therefore appropriate to its importance for the decision. Chapter 3 has been prepared to focus on the key air quality issues and to avoid unnecessary information. Noise – The significance and importance of each type of noise impact has been considered to determine the level of investigation and hereby focusing on the key issues and avoiding presentation of unnecessary. As such, some impacts have been assessed quantitatively and some qualitatively. Information such as detailed predicted noise levels at each NSR have been moved to appendix and the main text are concentrating on the key issues. Water Quality – the level of investigation of each type of impact has taken into account the significance of that impact, hence some impacts are quantitatively assessed while others are qualitatively assessed. Assessments focus on the key compliance requirement and unnecessary information / results have been avoided. Sewerage and Sewage Treatment Implication – the level of investigation has focused on the impact to the existing Tung Chung Sewage Pumping Station. Waste – The investigation of each type of impact is appropriate to its importance for the decision, avoiding unnecessary information and concentrating on the key issues. Land Contamination – The investigation of each type of impact is appropriate to its importance for the decision, avoiding unnecessary information and concentrating on the key issues. Ecology – the investigation of each type of impact was focused on the key ecological sensitive receivers and habitats. Fisheries – the investigation of each type of impact was focused on the key sites of fisheries importance. Landscape & Visual – The investigation for each impact is appropriate outlined in Section 11.5 and 11.9. Cultural Heritage – the investigation has focused on terrestrial archaeology, marine archaeology and built heritage items.
5.6	Are impacts which may not be themselves significant, but which may contribute incrementally to a significant effect considered ?	Air Quality – During the construction phase, the cumulative air quality impacts due to construction works of the project and the concurrent projects as well as from the background emissions have been quantified and assessed. During the operation phase, the cumulative air quality impacts from project related activities, proximity infrastructures and ambient emissions have been predicted and assessed. Noise – Cumulative noise impacts have been considered. Water Quality – cumulative impacts have been considered and incorporated into relevant assessments. Sewerage and Sewage Treatment Implications– impacts to proposed sewage system due to the project are the only area to be considered. Waste – All the impacts related to waste management are considered in Chapter 7. Land Contamination – All the impacts related to land contamination are considered in Chapter 8. Ecology – secondary impacts due to the proposed mitigation measures and cumulative impacts were also assessed in Chapter 9. Fisheries – secondary impacts due to the proposed mitigation measures and cumulative impacts were also assessed. Landscape & Visual – All landscape and visual impacts have been considered and reflected in the findings of the assessment in Chapter 11. Cultural Heritage – impacts to cultural heritage due to the project have been considered and reflected in the findings of the assessment.
5.7	Does the information include a description of the methods/approaches used to identify impacts and the rationale for using them ?	Air Quality – Details of the methods and approaches used to identify and assess air quality impacts and the rationale for using them are described in Sections 3.4 and 3.5. Noise – The methods / approaches used to identify impacts and the rationale for using them are described in Section 4.3 - 4.11. Water Quality – the methods / approaches used to assess impacts are described in Section 5.3. Sewerage and Sewage Treatment Implication – the methods / approaches used to assess impacts are described in Sections 6.3 and 6.4. Waste – The assessment methodology of the waste management issues associated with construction and operation phases is described in Section 7.2. Land Contamination – The assessment methodology of land contamination issues associated with constructio phase is described in Section 8.2. Ecology – the methodology for ecological impact assessment following the guideline as stipulated in EIAO-TM Annexes 8 and 16 and was described in Section 9.6. Fisheries – the methodology for fisheries impact assessment following the guideline as stipulated in EIAO-TM Annexes 9 and 17 and was described in Section 10.5. Landscape & Visual – The methodology for landscape and visual impact assessment with the Environmental Impact Assessment Ordinance (EIAO), the Technical Memorandum on EIA Process (TM-EIAO) and the requirements of the EIA Study Brief and was described in Section 11.3. Cultural Heritage – the methods and approaches used to identify cultural heritage resources are described in Section 12.3 and are in accordance with the EIA Study Brief requirements.
5.8	If the nature of the project is such that accidents are possible which might cause severe damage within the surrounding environment, has an assessment of the probability and likely consequences of such events been carried out and the main findings reported ?	Air Quality – the methods / approaches used to assess impacts are described in Section 3.4 and 3.5. Noise – The methods / approaches used to identify impacts and the rationale for using them are described in Section 4.3 - 4.11. Water Quality – the methods / approaches used to assess impacts are described in Section 5.3. Sewerage and Sewage Treatment Implication – the methods / approaches used to assess impacts are described in Section 6.3- 6.4. Waste – The assessment methodology of the waste management issues associated with construction and operational phases is described in Section 7.2. Land Contamination – The assessment methodology of land contamination issues associated with construction phases is described in Section 8.2. Terrestrial Ecology – the methodology for ecological impact assessment following the guideline as stipulated in EIAO-TM Annexes 8 and 16 and was described in Section 9.6. Marine Ecology - impacts associated with accidents (such as pollution and chemical spillages and vessel collision to dolphins) have been assessed and addressed in Chapter 9. Fisheries – the methodology for fisheries impact assessment following the guideline as stipulated in EIAO-TM Annexes 9 and 17 and was described in Section 10.5. Landscape & Visual – The methodology for landscape and visual impact assessment follows the Environmental Impact Assessment Ordinance (EIAO), the Technical Memorandum on EIA Process (TM-EIAO) and the requirements of the EIA Study Brief and was described in Section 11.3. Cultural Heritage – the methods and approaches used to identify cultural heritage resources are described in Section 12.3 and are in accordance with the EIA Study Brief requirements.
<b>Magnitude of Impacts</b>		
5.9	Are impacts described in terms of the nature and magnitude of the change occurring and the nature (location, number, value, sensitivity) of the affected receiver ?	Air Quality – During both construction and operation phases of the project, the predicted cumulative air quality impacts at the identified air sensitive receivers have been quantified and assessed against the relevant criteria and standards. Details of the assessment findings are presented in Sections 3.4 and 3.5. Noise – During both construction and operational phases of the Project, the predicted noise levels for construction noise, road traffic noise, rail noise, fixed noise, helicopter noise and marine traffic noise at the identified Noise Sensitive Receivers have been quantitatively assessed. Water Quality – the predicted maximum /average concentration of each assessment parameter and the frequency of exceedance of the relevant criteria are presented and described for the affected receiver as part of the construction and operation phase quantitative assessments. Operation phase results are also compared with historical background levels to assess the significance of the change. Sewerage and Sewage Treatment Implication – not applicable Waste – Quantity, quality and timing of waste generation from construction phase (inert C&DM, non-inert C&DM, excavated marine sediment, chemical waste, general refuse and floating refuse) are summarised in Table 7.3. Land Contamination – Potential contaminated land uses were identified and provided in Chapter 8. Ecology – The degree of impact was described according to EIAO-TM Annex 8 with consideration of the habitat quality, importance of the species to be affected, size of the habitat/abundance of the species to be affected, duration of the impact, reversibility of the impacts and magnitude of the environmental changes. Summary of impact evaluation are provided in Sections 9.6 and 9.7. Fisheries – The impact severity was described according to EIAO-TM Annex 9 with consideration of the nature of impact, size of affected area, loss of fisheries resources/production, destruction and disturbance of nursery and spawning grounds, impact on fishing activity and impact on aquaculture activity. Summary of impact evaluation are provided in Section 10.6. Landscape & Visual – The landscape and visual impact assessment describes these in Sections 11.6 and 11.10. Cultural Heritage – the impact assessment for construction and operation phase are described in Sections 12.4 an 12.6.
5.10	Has the timescale over which the effects will occur been predicted such that it is clear whether impacts are short, medium or long term, temporary or permanent, reversible or irreversible?	Air Quality – Depending on the air pollutants, the relevant short-term (e.g., 10-minute average SO2, hourly NO2), medium-term (e.g., daily RSP, daily FSP) and long-term (e.g., annual RSP, annual FSP, annual NO2) air quality impacts due to the project have been assessed. Noise – Construction noise impacts at the NSRs have been predicted for the entire construction programme; road traffic noise impact during peak hour; fixed plant noise, rail noise, helicopter noise and marine traffic noise impacts during day time, evening time and night time period. Water Quality – for construction phase, the frequency of exceedances are presented to indicate the duration of impact. For operation phase, water quality parameters are modelled over a one year period to determine the long term changes due to the project. Sewerage and Sewage Treatment Implication – not applicable Waste – The impact will occur during the waste generation during construction and operation phase. Land Contamination – the possible impact will occur during excavation of soil during construction phase only. Ecology – the duration and reversibility of the impact have been considered in evaluating the impact significance. Fisheries – the nature of impacts including permanent or temporary, reversibility and duration have been considered in evaluating the impact significance. Landscape & Visual – The timescale over which the effects will occur has been described in Sections 11.5 and 11.9. Cultural Heritage – terrestrial archaeological impacts to cultural heritage due to the project are considered prior to or during construction.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
5.11	Where possible, have predictions of impacts been expressed in quantitative terms ? Otherwise, have qualitative descriptions been defined ?	Air Quality – During both construction and operation phases of the project, the predicted cumulative air quality impacts at the identified air sensitive receivers have been quantified and assessed against the relevant criteria and standards. Details of the assessment findings are presented in Sections 3.4 and 3.5. Noise – Various noise impacts have been predicted in quantitative terms. Water Quality – both quantitative and qualitative assessments have been adopted. For qualitative assessments, reference is made to quantitative information to support the analysis where applicable. Sewerage and Sewage Treatment Implication – the sewage impact assessment is based on the quantitative analysis in accordance with the guidance of EPD. Waste – The quantities of waste to be generated in construction and operation phase are identified in Section 7.3. Land Contamination – As some of the potential contaminated sites are inaccessible and some of the sites are still in operation, SI works cannot be undertaken at this stage. Further site reappraisal will be conducted for the inaccessible areas to determine the amount of contaminated soil (if any). Subject to further site surveys, a supplementary CAP (if necessary) may be prepared and submitted to EPD for endorsement. Ecology – Quantitative impacts have been predicted where possible based on the field survey findings. Qualitative descriptions have also been provided where quantification is not feasible. Fisheries – Quantitative impacts have been predicted where possible based on the field survey findings. Qualitative descriptions have also been provided where quantification is not feasible. Landscape & Visual –The methodology for the predictions is in accordance with the Environmental Impact Assessment Ordinance (EIAO), the Technical Memorandum on EIA Process (TM-EIAO) and the requirements of the EIA Study Brief. Qualitativedescriptions of impacts have been described in the landscape and visual assessments in Sections 11.5 and 11.9. Cultural Heritage – the number of potentially affected cultural heritage features are quantified.
5.12	Where quantitative predictions have been provided is the level of uncertainty attached to the results described ?	Air Quality – Worst case scenario has been adopted in noise impact assessment. Noise – Worst case scenario has been adopted in noise impact assessment. Water Quality – Worst case scenario has been adopted in noise impact assessment. Sewerage and Sewage Treatment Implication – quantitative assessments are based on worst case scenarios and assumptions that are described in Section 6.7. Waste – estimates of waste quantities due to the project are based on engineers' practical estimation, which are the best available information at the time. Land Contamination – not applicable. Ecology – The area of habitat loss is estimated based on total land use zoning within RODP but not on building layout in each landuse. Fisheries – quantitative assessments are based on worst case and conservative scenarios. Landscape & Visual – Quantitative predictions are based on worst case scenario therefore this is not applicable. Cultural Heritage – the level of uncertainty associated with the terrestrial archaeological investigation in terms of the archaeological potential at inaccessible areas are described in Section 12.4.
<b>Data and Methods</b>		
5.13	Have the methods used to predict the nature, size and scale of impacts been described and are they appropriate to the importance of each projected impact ?	Air Quality – The methods used to predict the nature, size and scale of air quality impacts are developed according to the EIA Study Brief requirements. Details of the assessment methods are described in in Sections 3.4 and 3.5. Noise – the methods / approaches used to identify impacts and the rationale are described in Section 4.3 - 4.11, and are in accordance with the EIA Study Brief requirements and/or agreed with relevant statutory bodies. Water Quality – the methods adopted to predict the water quality impacts are described in Section 5.3 and follows the requirements of the EIA Study Brief. Sewerage and Sewage Treatment Implication – the methods adopted to predict the sewage impacts are described in Section 6.3 - 6.4 and follows the requirements of the EIA Study Brief. Waste – The assessment methodology of the waste management issues associated with construction and operation phases is described in Section 7.2. Land Contamination – The assessment methodology of land contamination issues associated with construction phase is described in Section 8.2. Ecology – The methods used to predict the nature, size and scale of impacts been described in Section 9.6 - 9.7 and in accordance to EIAO-TM Annex 8. Fisheries – The methods used to predict the nature, size and scale of impacts been described in Section 10.5 and in accordance to EIAO-TM Annex 9. Landscape & Visual – The methodology for the predictions is in accordance with the Environmental Impact Assessment Ordinance (EIAO), the Technical Memorandum on EIA Process (TM-EIAO) and the requirements of the EIA Study Brief. The methodology for the landscape and visual assessment in Section 11.5 and 11.9 reflects in qualitative terms, the nature, size and scale of the impacts. Cultural Heritage – methods used for cultural heritage impact assessment are presented and described in Section 12.3. The methodology follows the requirements specified in the EIA Study Brief.
5.14	Are the data used to estimate the size and scale of the main impacts sufficient for the task, are they clearly described and have their sources been clearly identified ?	Air Quality – Details of the air quality assessment methods and the data used to predict the impacts are clearly documented and referenced, where appropriate, in Sections 3.4 and 3.5. Noise – The data used to estimate the various noise impacts is sufficient, described clearly and their sources been clearly identified in Sections 4.3 - 4.11. Water Quality – data used for the water quality assessment has been appropriately sourced and references to approved EIA reports or other studies have been quoted where applicable. Sewerage and Sewage Treatment Implication – data used for the sewage impact assessment has been appropriately sourced from DSD/ EPD. Waste – The data used to estimate the size and scale of the main impacts are sufficient for the task, they are clearly described and have their sources been clearly identified in the chapter. Land Contamination – The assessment methodology of land contamination issues associated with construction phase is described in Section 8.2. Ecology – The size and scale of the main impacts were quantified as far as feasible and the scale of impacts was determined based on baseline conditions and clearly described in Sections 9.6 - 9.7. Fisheries – The size and scale of the main impacts were quantified as far as feasible and the scale of impacts was determined based on baseline conditions and clearly described in Sections 10.5. Landscape & Visual – the LR, LCA and VSRs have been described in details in Sections 11.5 and 11.9. Cultural Heritage – size and scale of cultural heritage impacts are based on project information (e.g. project area and construction activities).
<b>6. Mitigation</b>		
<b>Description of Mitigating</b>		
6.1	Has the mitigation of significant negative impacts been considered and, where feasible, have specific measures been proposed to address each impact ?	Air Quality – Specific and practicable mitigation measures during the construction phase have been recommended, as detailed in Section 3.4. Mitigation measure is not required during operational phase. Noise – Mitigation measures have been considered and proposed to alleviate predicted noise impacts, and are discussed in Sections 4.3 - 4.11. Water Quality – specific mitigation measures have been recommended to address relevant impacts. These are listed in Sections 5.4 - 5.6. Sewerage and Sewage Treatment Implication – adequate mitigation measures have been recommended to the sewage impacts due to the project in Section 6.7. Waste – Mitigation measures for both construction phase and operation phase for each type of waste to be generated are identified in Section 7.4. Land Contamination – Mitigation measures are proposed for handling the contaminated materials (if any) are identified in Section 8.5. Ecology – Mitigation measures for specific impacts and general avoidance and minimisation measures were presented in Section 9.8. Fisheries – Mitigation measures for specific impacts and general avoidance and minimisation measures were presented in Section 10.8. Landscape & Visual – Mitigation measures for adverse impacts has been proposed and included in the report. Mitigation measures for both landscape and visual impacts are described in Section 11.6 and 11.10. Cultural Heritage – mitigation measures for terrestrial archaeology are proposed and described in Sections 12.5 and 12.7.
6.2	Have the reasons for choosing the particular type of mitigation, and the other options available, been described ?	Air Quality – The construction phase mitigation measures are recommended based on the impact assessment findings and the mitigated air quality impacts have been assessed, as detailed in Sections 3.4 and 3.5. Noise – Proposed noise mitigation measures are standard measures that have been proposed in past EIAs and are well established and accepted. Water Quality – The mitigation measures proposed are generally standard measures that are well established and accepted. Sewerage and Sewage Treatment Implication – the mitigation measures are described in Section 6.7 Waste – The reasons for choosing mitigation measures for each type of waste to be generated from the project are identified under Section 7.4. Land Contamination – Possible remediation measures are identified in Section 8.5. Ecology – Mitigation measures for specific impacts and general avoidance and minimisation measures were presented in Section 9.8. Fisheries – The reasons for proposing the mitigation measures were described in Section 10.8. Landscape & Visual – The reasons for choosing mitigation measures are described in Section 11.6 and 11.8. Cultural Heritage – mitigation measures for terrestrial archaeology are proposed and described in Sections 12.5 and 12.7.
6.3	Where mitigating measures are proposed, has the significance of any impact remaining after mitigation been described ?	Air Quality –The mitigated air quality impacts during construction phase have been assessed, as detailed in Section 3.4. Noise – The significance of any impact after mitigation has been assessed and described in Sections 4.3 - 4.11. Water Quality – the significance of any impacts after mitigation has been assessed as part of the evaluation of water quality impacts in Sections 5.4 - 5.6. Sewerage and Sewage Treatment Implication – the significance of any impacts after mitigation has been assessed in Section 6.7. Waste – With the implementation of the recommended mitigation measures, the evaluation of adverse impact is described in Section 7.4. Land Contamination – The evaluation of adverse impact is described in Section 8.5. Ecology – the anticipation for ecology's residual impacts during both construction and operational phases are presented in Section 9.10. Fisheries – the anticipation for tecology's residual impacts during both construction and operational phases are presented in Section 10.10. Landscape & Visual – The significance of impacts after the implementation of mitigation measures is described and assessed in the report in Sections 11.7 and 11.11. Cultural Heritage – mitigation measures for terrestrial archaeology are proposed and described in Sections 12.5 and 12.7.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
6.4	Where appropriate, do mitigation methods considered include modification of project design, construction and operation, the replacement of facilities/resources, and the creation of new resources, as well as "end-of-pipe" technologies for pollution control ?	Air Quality – Construction phase mitigation measures including good site management, dust control measures, have been recommended, as detailed in Section 3.4. No mitigation measure is required for operational phase. Noise – The proposed noise mitigation measures for road traffic noise assessment would involve façade with no openable window, architectural fin, roadside barrier, school boundary wall etc. Water Quality – mitigation measures have included recommendations for design, construction and operation of the relevant project components / facilities where applicable. Sewerage and Sewage Treatment Implication – mitigation measures have included recommendations for design and construction of the proposed sewage system. Waste – mitigation measures including treatment methods of excavated sediment, illegal dumping and landfilling etc have been proposed in Section 7.4. Land Contamination – not applicable Ecology – mitigation measures including compensatory woodland planting and adoption of eco-shoreline have been proposed in Section 9.8. Fisheries – eco-shoreline and mitigation measures for proposed SPSs have been proposed in Section 10.8. Landscape & Visual – Mitigation measures described in Sections 11.6 and 11.8 do involve the modification of project design, construction and operation. Cultural Heritage – not applicable.
6.5	Is it clear to what extent the mitigation methods will be effective ?	Air Quality –The mitigated air quality impacts during construction phase have been assessed, as detailed in Section 3.4. Noise – The noise impacts after implementation of mitigation measures have been assessed quantitatively, allowing comparison with predicted unmitigated noise impacts. Water Quality – the mitigation measures are generally standard measures that are well established and demonstrated to be effective. Sewerage and Sewage Treatment Implication – the mitigation measures are generally standard measures that are common practice to be effective. Waste – The mitigation methods will be effective when waste is generated as described in Section 7.3. Land Contamination – The mitigation methods will be effective when contaminated materials is found as described in Section 8.5. Ecology – The effectiveness of the proposed mitigation methods is subject to an EM&A programme with adaptive management. Fisheries – The mitigation measures are general standard measures from water quality that are well established and demonstrated to be effective. Landscape & Visual – Specific mitigation measures are identified for each individual Landscape Resource, Landscape Character Area and Visually Sensitive Receiver in Section 11.6 and 11.10. Cultural Heritage – Additional archaeological investigation and implementation of watching brief are proved to be effective in other projects.
6.6	Where the effectiveness is uncertain or depends on assumptions about operating procedures, climatic conditions, etc, or where there is a risk that mitigation will not work, is this made clear and has data been introduced to justify the acceptance of the assumptions ?	Air Quality – All the recommended mitigation measures have been assessed to be effective in achieving compliance with the relevant criteria, as detailed in Section 3.4, and all these measures are feasible and practicable. Noise – Worst case scenario and conservative approach has been adopted in noise impact assessment. Monitoring of the effectiveness of mitigation measures have been proposed in the EM&A Manual. Water Quality – All the recommended mitigation measures have been assessed to be effective in achieving compliance with the relevant criteria, as detailed in Section 5.4 -5.6, and all these measures are feasible and practicable. Sewerage and Sewage Treatment Implication – conservative assumption has been taken for the implementation of mitigation measures. Waste – not applicable Land Contamination – not applicable Ecology – The effectiveness of the proposed mitigation measures were justified with experience. Fisheries – The effectiveness of the proposed mitigation measures were justified with experience. Landscape & Visual – This is not applicable. Cultural Heritage – not applicable.
<b>Implementation of Mitigation Measures</b>		
6.7	Have details of how the mitigation measures will be implemented and function over the time span for which they are necessary been presented ? Does the report list out clearly what mitigation measures would be implemented, by whom, when, where and to what requirements ? Is the responsibility for implementing the recommended mitigation measures clearly defined ?	Implementation of mitigation measures including by whom, when, where and to what requirements are clearly listed out in EMIS.
<b>Environmental Effects of Mitigation</b>		
6.8	Have any adverse environmental effects of mitigation measures been investigated and described ?	Air Quality – The recommended mitigation measures will not give rise to adverse environmental effects. Noise – No adverse environmental effects of mitigation measures are anticipated. Water Quality – no adverse effects of the proposed mitigation measures are anticipated. Sewerage and Sewage Treatment Implication – no adverse effects of the proposed mitigation measures are anticipated. Waste – no adverse effects of the proposed mitigation measures are anticipated. Land Contamination – no adverse effects of the proposed mitigation measures are anticipated. Ecology – no adverse effects of the proposed mitigation measures are anticipated. Fisheries – no adverse effects of the proposed mitigation measures are anticipated. Landscape & Visual – There are no adverse environmental effects due to the landscape and visual mitigation measures, therefore this is not applicable Cultural Heritage – not applicable as no mitigation measures are required.
6.9	Has the potential for conflict between the benefits of mitigating measures and their adverse impacts been considered ?	Air Quality – The recommended mitigation measures will not give rise to adverse environmental effects, and hence no potential conflict issues. Noise – No adverse environmental effects of mitigation measures are anticipated. Water Quality – no adverse impacts to water quality resulting from implementation of the mitigation measures is anticipated. Sewerage and Sewage Treatment Implication – no adverse impacts to water quality resulting from implementation of the mitigation measures is anticipated. Waste – no adverse effects of the proposed mitigation measures are anticipated. Land Contamination – no adverse effects of the proposed mitigation measures are anticipated. Ecology – no adverse effects of the proposed mitigation measures are anticipated. Fisheries – no adverse effects of the proposed mitigation measures are anticipated. Landscape & Visual – There are no adverse environmental effects due to the landscape and visual mitigation measures, therefore this is not applicable Cultural Heritage – not applicable.
<b>7. Evaluation of Residual Impacts</b>		
7.1	Have the available standards, assumptions and criteria which can be used to evaluate the impacts been discussed ?	Air Quality – available standards and criteria used to evaluate water quality impacts are presented in Section 3.1. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – available standards and criteria used to evaluate water quality impacts are presented in Section 5.1. Sewerage and Sewage Treatment Implication – Not applicable. Waste – The available standard and criteria is identified in Section 7.1. Land Contamination – The available standard and criteria is identified in Section 8.1. Ecology – the potential residual impact was evaluated according to EIAO-TM. Fisheries – the potential residual impact was evaluated according to EIAO-TM. Landscape & Visual – The landscape and visual impact assessment has been determined in accordance with the Environmental Impact Assessment Ordinance (EIAO) and the requirements of the EIA Study Brief and other such legislation, standards and guidelines outlined in Section 11.2. Section 11.3 outlines the assumptions and limitations of the Landscape and Visual Impact Assessment. Cultural Heritage – the cultural heritage standards are presented in Section 12.1.
7.2	Have the predicted impacts been compared to the available standards and criteria ?	Air Quality – No adverse residual air quality impacts are anticipated as detailed in Sections 3.4 and 3.5. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – not applicable as no residual impacts are identified.. Land Contamination – not applicable as no residual impacts are identified.. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The predicted landscape and visual impacts have been compared to the available standards and criteria as described in Section 11.2. Cultural Heritage – not applicable as no residual impacts are identified.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
7.3	Have the residual impacts, which are the net impacts with the mitigation measures in place, been described and evaluated against the available Government policies, standards and criteria ?	Air Quality – No adverse residual air quality impacts are anticipated as detailed in Sections 3.4 and 3.5. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – No residual impact is anticipated. Land Contamination – No residual impact is anticipated. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.7 and 11.11. Cultural Heritage – not applicable as no residual impacts are identified.
7.4	Have the residual impacts been discussed and evaluated in terms of the impact on the health and welfare of the local community and on the protection of environmental resources ?	Air Quality – No adverse residual air quality impacts are anticipated as detailed in Sections 3.4 and 3.5. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – No residual impact is anticipated. Land Contamination – No residual impact is anticipated. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.7 and 11.11. Cultural Heritage – not applicable as no residual impacts are identified.
7.5	Have the magnitude, location and duration of the residual impacts been discussed in conjunction with the value, sensitivity and rarity of the resource ?	Air Quality – No adverse residual air quality impacts are anticipated as detailed in Sections 3.4 and 3.5. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – No residual impact is anticipated. Land Contamination – No residual impact is anticipated. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.7 and 11.11. Cultural Heritage – not applicable as no residual impacts are identified.
7.6	Where there are no generally accepted standards or criteria for the evaluation of residual impacts, have alternative approaches been discussed and, if so, is a clear distinction made between fact, assumption and professional judgement ?	Air Quality – No adverse residual air quality impacts are anticipated as detailed in Sections 3.4 and 3.5. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – No residual impact is anticipated. Land Contamination – No residual impact is anticipated. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.7 and 11.11. Cultural Heritage – not applicable as no residual impacts are identified.
7.7	Have the residual impacts, if any, arising from the implementation of the proposed mitigation measures, been considered ?	Air Quality – No adverse residual air quality impacts are anticipated and hence evaluation of residual impacts is not required. Noise – The proposed mitigation measures themselves do not cause any residual impact. Water Quality – not applicable as no residual impacts are identified. Sewerage and Sewage Treatment Implication – not applicable as no residual impacts are identified. Waste – No residual impact is anticipated. Land Contamination – No residual impact is anticipated. Ecology - The potential residual impact was evaluated according to EIAO-TM. Fisheries – not applicable as no residual impacts are identified. Landscape & Visual – The residual impacts with and without mitigation measures have been described and evaluated the available government policies, standards and criteria and described in Sections 11.7 and 11.11. Cultural Heritage – not applicable as no residual impacts are identified.

Sections of the TM	Specific Requirements	Compliance Check
<b>ANNEX 20: GUIDELINES FOR THE REVIEW OF AN EIA REPORT</b>		
<b>8. Environmental Monitoring and Audit Proposals</b>		
8.1	If impacts are uncertain, have monitoring arrangements been proposed to check the environmental impacts resulting from the implementation of the project and their conformity with the predictions made ?	Air Quality – As detailed in Section 3.4, regular construction dust monitoring has been recommended as part of the EM&A programme whereas no additional operation phase air quality monitoring is considered necessary. Noise – Monitoring has been proposed to check construction noise impacts and road traffic noise impacts. Water Quality – for construction phase impacts, monitoring has been proposed as part of the environmental monitoring and audit programme to check the water quality during construction phase. Sewerage and Sewage Treatment Implication – EM&A is not required. Waste – A Waste Management Plan (WMP) should be prepared and implemented by the Contractor during construction phase. Land Contamination –EM&A is to be carried out in the form of regular site inspection prior to construction phase is discussed in Section 8.5. Ecology – Relevant EM&A programme has been proposed and detailed in the EM&A Manual. Fisheries – No specific fisheries monitoring is required for the proposed mitigation measures. Landscape & Visual – The uncertainty of the impact prediction is low, therefore there is no need for a monitoring programme therefore this is not applicable. Cultural Heritage – additional archaeological investigation and watching brief are propoosed in EM&A.
8.2	Does the scale of any proposed monitoring arrangements correspond to the potential scale and significance of deviations from expected impacts ?	Air Quality – The scale and locations of recommended air quality monitoring work is based on the impact assessment findings as detailed in Section 3.4. Six construction air monitoring stations were proposed as a representative location for different construction area. Noise – Proposed monitoring arrangements have been determined based on findings from associated noise impact assessment and relevant criteria. Nine construction noise and six road traffic noise monitoring locations were proposed, comprising of both residential and educational sensitive uses, and locations are spread across the new development. Water Quality – the scale of water quality monitoring has taken into account the scale of the project in determining the appropriate number and locations of monitoring stations. A total of 5 monitoring locations have been proposed for the construction phases. Sewerage and Sewage Treatment Implication – EM&A is not required. Waste – not applicable. Land Contamination – not applicable. Ecology – Relevant EM&A programme has been proposed and detailed in the EM&A Manual. Fisheries – no specific fisheries monitoring is required. Landscape & Visual – Deviations of predicted impacts is low therefore this is not applicable Cultural Heritage – not applicable.
8.3	Is the need for and the scope of the monitoring and audit requirements defined in the report ?	Air Quality – The need for and scope of air quality monitoring and audit work is detailed in EM&A Manual. Noise – The need for monitoring and audit requirements have been detailed in the EM&A Manual. Water Quality – the need for monitoring have been detailed in the environmental monitoring and audit manual. Sewerage and Sewage Treatment Implication – not applicable. Waste – not applicable. Land Contamination – not applicable. Ecology – The need for and scope of environemtnal monitoring and audit work is detailed in EM&A Manual. Fisheries – no specific fisheries monitoring is required. Landscape & Visual – not applicable Cultural Heritage – The need for and scope of environemtnal monitoring and audit work is detailed in EM&A Manual.
8.4	Does the report contain an Environmental Monitoring and Audit programme, as prescribed in Annex 21, if it is found to be needed ?	An environmental monitoring and audit programme is specified in the EM&A Manual for this project.
<b>9. Difficulties Compiling the Information</b>		
9.1	Have any gaps in the required data been indicated and the means used to deal with them in the assessment been explained ?	Air Quality – No significant gaps in the data required for air quality impact assessment. Noise – No significant gaps in the data required for noise impact assessment. Water Quality – No significant gaps in the data required for water quality impact assessment. Sewerage and Sewage Treatment Implication – No significant gaps in the data required for sewage impact assessment. Waste - not applicable. Land Contamination – As some of the potential contaminated sites are inaccessible and some of the sites are still in operation, SI works cannot be undertaken at this stage. Further site re-appraisal will be conducted for the inaccessible areas. Subject to the further site survey findings, a supplementary CAP (if necessary) may be prepared and submitted to EPD for endorsement. After completion of SI, CAR and RAP will be prepared and submitted to EPD as mentioned in Section 8.5. Ecology – The assessment has been conducted based on both literature review and desktop studies and where there are gaps in the information, site surveys have been conducted to fill in the missing information. Fisheries – the assessment has been conducted based on both literature review and desktop studies and where there are gaps in the information, site surveys have been conducted to fill in the missing information. Landscape & Visual – This is not applicable. Cultural Heritage – the assessment has been conducted based on both literature review and desktop studies and where there are gaps in the information, site surveys have been conducted to fill in the missing information.
9.2	Have any difficulties in assembling or analysing the data needed to predict impacts been acknowledged and explained ?	Air Quality – no significant difficulties in assembling or analysing data to predict impacts. Noise – No significant difficulties in assembling or analysing data to predict impacts. Water Quality – no significant difficulties arose in assembling or analysing datato predict impacts. Sewerage and Sewage Treatment Implication – no significant difficulties in assembling or analysing data to predict impacts. Waste – not applicable. Land Contamination – It is determined that potential contaminated sites are inaccessible for preparing sampling and analysis during the course of the EIA study. The information has been reviewed, possible remediation methods, confirmation of whether the contamination problem would be surmountable and sampling and analysis proposal are included in CAP as shown in Appendix 8.1. Subject to further site re-appraisal findings, a supplementary CAP for additional SI (if necessary) may be prepared and submitted to EPD for endorsement. After completion of SI, CAR and RAP will be prepared and submitted to EPD as mentioned in Section 8.5. Ecology – no significant difficulties in assembling or analysing data to predict impacts. Fisheries – no significant difficulties in assembling or analysing data to predict impacts. Landscape & Visual – not applicable. Cultural Heritage – site constraints / limited access were encountered during the terrestrial archaeological survey as described in Section 12.4.
<b>10. Executive Summary</b>		
10.1	Does the executive summary contain at least a brief description of the project and the environment, an account of the main mitigation measures to be implemented by the developer, and a description of any remaining or residual impacts ?	A brief description of the project is given in Chapter 1 of the Executive Summary. A description of mitigation measures to be implemented and any residual impacts is presented in individual technical chapters of the Executive Summary.
10.2	Have technical jargons been avoided as far as possible in the executive summary ?	Unnecessary technical jargon has been avoided.
10.3	Does the executive summary present the main findings of the assessment and cover all the main issues ?	The main findings of the assessment are presented in individual technical chapters of the Executive Summary.
10.4	Does the executive summary include a brief explanation of the overall approach to the assessment ?	The overall approach of individual assessments are presented in individual technical chapters of the Executive Summary.
10.5	Does the executive summary provide an indication of the confidence which can be placed in the results ?	The description of the approach and findings of the assessment presented in individual technical chapters of the Executive Summary gives an indication of the confidence of the results.
10.6	Is the executive summary presented in both English and Chinese ?	The executive summary is presented in both English and Chinese.