ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE (CAP. 499)
SECTION 5 (7)

ENVIRONMENTAL IMPACT ASSESSMENT STUDY BRIEF NO. ESB- 281/2014

PROJECT TITLE : SAI O TRUNK SEWER SEWAGE PUMPING STATION
(hereinafter known as the "Project")

NAME OF APPLICANT : DRAINAGE SERVICES DEPARTMENT
(hereinafter known as the "Applicant")

1. BACKGROUND

1.1 An application (No. ESB-281/2014) 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 30 Oct 2014 with a project profile (No. PP-517/2014) (the Project Profile).

1.2 The Project is to construct and operate a new sewage pumping station, located at the north of Sai O near Nai Chung, with a capacity of about 12,500m^3 per day for coping with the sewerage needs of both existing and future developments. The Project is part of Public Works Programme Item 4125DS - Tolo Harbour Sewerage of Unsewered Areas, Stage II, which originates from the findings of the Study "Review of North District and Tolo Harbour Sewerage Master Plan" completed in 2002. The location of the Project as given in the Project Profile is in Appendix A of this study brief.

1.3 The Project consists of the following Designated Projects under Part I, Schedule 2 of the EIAO:

Item F.3 – A *sewage pumping station---*
- *(a) with an installed capacity of more than 300,000 m^3 per day; or*
- *(b) with an installed capacity of more than 2,000 m^3 per day and a boundary of which is less than 150 m from an existing or planned---*
  - *(i) residential area;*
  - *(ii) place of worship;*
  - *(iii) educational institution;*
  - *(iv) health care institution;*
  - *(v) site of special scientific interest;*
  - *(vi) site of cultural heritage;*
  - *(vii) bathing beach;*
  - *(vii) marine park or marine reserve;*
  - *(ix) fish culture zone; or*
  - *(x) seawater intake point.*

1.4 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.

1.5 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from construction and operation of the Project and related activities that take place concurrently. This information will contribute to decisions by the Director on:

(i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;

(ii) the conditions and requirements for the design, construction, operation and decommissioning of the Project to mitigate against adverse environmental consequences; and

(iii) the acceptability of residual impacts after the proposed mitigation measures are implemented.

2. OBJECTIVES OF THE EIA STUDY

2.1 The objectives of the EIA study are as follows:

(i) to describe the Project and associated works together with the requirements for carrying out the Project;

(ii) to identify and describe elements of community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including natural and man-made environment;

(iii) to present the consideration of alternatives to avoid and minimise the potential adverse environmental impacts on the sensitive uses, particularly, Hong Kong Baptist Theological Seminary, Sai O Village, Villa Concerto, Sai Sha Villa, Zessa Vista, Nai Chung Village, Villa Rhapsody, Helping Hand Father Sean Burke Care Home for The Elderly, Holiday Centre for the Elderly, The Outward Bound Alumni Association of Hong Kong and the planned international school nearby; to compare the environmental benefits and dis-benefits of the different options; to provide reasons for selecting the preferred option(s) and to describe the part environmental factors played in the selection of preferred option(s);

(iv) to identify and quantify emission sources, to determine the significance of impacts on sensitive receivers and potential affected uses and to propose measures to mitigate these impacts;

(v) to identify and quantify any potential impacts from point and non-point pollution sources on the identified water systems and sensitive receivers and to propose measures to mitigate these impacts;

(vi) to identify and quantify any potential loss or damage and other potential impacts to flora, fauna and natural habitats;

(vii) to identify and quantify contaminated land within any project area for

development works, and to propose measures to avoid disposal in the first instance;

(viii) to identify and quantify waste management requirements and to propose measures to mitigate impacts;

(ix) to identify any potential landscape and visual impacts and to propose measures to mitigate these impacts;

(x) to identify any potential impacts on any archaeological resources and to propose measures to mitigate these impacts;

(xi) to propose the provision of mitigation measures to minimise pollution, environmental disturbance and nuisance during construction and operation of the Project;

(xii) to investigate the feasibility, practicability, effectiveness and implications of the proposed mitigation measures;

(xiii) to identify, predict and evaluate the residual environmental impacts (i.e. after practicable mitigation) and the cumulative effects expected to arise during the construction and operation phases of the Project in relation to the sensitive receivers and potential affected uses;

(xiv) to identify, assess and specify methods, measures and standards to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;

(xv) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures and to identify constraints associated with the mitigation measures recommended in the EIA study, as well as the provision of any necessary modification;

(xvi) to design and specify environmental monitoring and audit requirements to ensure the effective implementation of the recommended environmental protection and pollution control measures; and

(xvii) to identify any additional studies necessary to implement the mitigation measures or monitoring and proposals recommended in the EIA report.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The Purpose

3.1.1 The purpose of this Study Brief is to scope the key issues of the EIA study and to specify the environmental issues that are required to be reviewed and assessed in the EIA report. The Applicant has to demonstrate in the EIA report that the criteria in the relevant sections of the Technical Memorandum on the Environmental Impact Assessment Process of the Environmental Impact Assessment Ordinance (hereinafter referred to as the "TM") are complied with.

3.2 The Scope

3.2.1 The scope of this EIA study shall cover the Project and associated works proposed in the Project Profile and mentioned in sections 1.2 above. The EIA study shall address the likely key issues described below, together with any other key issues identified during the course of the EIA study:

(i) the potential noise impact on sensitive receivers due to the Project and associated works, including impact from construction equipment during construction and operational noise impact from fixed noise source;

(ii) the potential air quality impacts during the construction and operation of the project;

(iii) the potential water quality impacts during construction and operation of the Project, including the scenario when there is emergency sewage overflow via the nearby stormwater drainage system;

(iv) the extent of land contamination within any project area for development works and relevant mitigation measures; and potential impacts of waste management during construction and/or operation of the Project;

(v) the potential hazard to life during the construction and operation of the Project;

(vi) the potential aquatic and terrestrial ecological impacts during construction and operation of the Project, including the scenario when there is emergency sewage overflow via the nearby stormwater drainage system;

(vii) the potential visual and landscape impacts during construction and operation of the Project to the sensitive receivers;

(viii) the potential impacts on any archaeological site during construction of the Project; and

(ix) the potential cumulative environmental impacts of the Project, through interaction or in combination with other existing, committed and planned developments in the vicinity of the Project, and that those impacts may have a bearing on the environmental acceptability of the Project.

3.3 Consideration of Alternatives

3.3.1 Need for the Project

The Applicant shall provide information on the need of the Project, including the purpose, objectives, environmental benefits and dis-benefits of the Project, and describe the scenarios with and without the Project.

3.3.2 Consideration of Alternative Locations

With reference to the proposed location in the Project Profile, the Applicant shall consider alternative locations of the proposed sewage pumping station, with an aim to avoiding potential environmental impacts to the affected sensitive receivers. A comparison of the environmental benefits and dis-benefits of alternative locations shall be made with a view to recommending the preferred location to maximize environmental benefits and avoid/minimize adverse environmental effects to the maximum practicable extent.

3.3.3 Consideration of Alternative Design Options, Construction Methods and Sequences of Works

Taking into consideration the combined effect with respect to the severity and duration of the impacts to the affected sensitive receivers, the EIA study shall explore alternative design options (such as underground plant facilities, minimising the building bulk, appropriate façade and boundary treatments, etc), construction methods and sequences of works for the Project, with a view to avoiding prolonged adverse environmental impacts to the maximum practicable extent. A comparison of the environmental benefits and dis-benefits of applying different construction methods and sequences of works shall be made.

3.3.4 Selection of Preferred Scenario

Taking into consideration of the findings in sub-sections 3.3.2 and 3.3.3 above, the Applicant shall recommend with full justifications the adoption of the preferred scenario that will maximize environmental benefits, and avoid or minimize adverse environmental effects arising from the Project, and adequately describe the part that environmental factors played in arriving at the final selection.

3.4 Technical Requirements

The Applicant shall conduct the EIA study to address all environmental aspects of the activities as described in Sections 3.2 and 3.3 above. The EIA study shall include the following technical requirements on specific impacts.

3.4.1 Air Quality Impact

3.4.1.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing air quality impact as stated in section 1 of Annex 4 and Annex 12 of the TM.

3.4.1.2 The study area for air quality impact assessment shall be defined by a distance of 500m from the Project boundary or other project locations as identified in the EIA, which shall be extended to include major existing, planned and committed air pollutant emission sources that may have a bearing on the environmental acceptability of the Project. The assessment shall include the existing, planned and committed sensitive receivers within the study area as well as areas where air quality may be potentially affected by the Project. Such assessment shall be based on the best available information at the time of the assessment.

3.4.1.3 The assessment of potential air quality impacts (including odour impacts and impacts from toxic air pollutants) from the construction and operation of the Project shall be conducted in accordance with the technical requirements in Appendix B of this EIA Study Brief.

3.4.1.4 The Applicant shall assess the air pollutant concentrations with reference to the relevant sections of the guidelines in Appendix B-1 attached to this EIA Study Brief, or other methodology as agreed by the Director.

3.4.2 **Noise Impact**

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.

3.4.2.2 Assessment shall include construction noise and fixed 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.

3.4.2.3 The noise impact assessment for construction and operation of the Project shall follow the detailed technical requirements given in Appendix C.

3.4.3 **Water Quality Impact**

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.

3.4.3.2 The assessment area for the purpose of this water quality impact assessment shall cover an area within 500m of the project site boundary, and all water sensitive receivers downstream of the emergency sewage overflow via the nearby stormwater drainage system into the Tolo Harbour. The study area shall be extended to include other areas if they are found also being impacted during the course of the EIA study and have a bearing on the environmental acceptability of the Project.

3.4.3.3 The water quality impact assessment for construction and operation of the Project shall follow the detailed technical requirements given in Appendix D.

3.4.4 **Land Contamination and Waste Management Implication**

3.4.4.1 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.

3.4.4.2 The assessment of waste management implication shall follow the detailed technical requirements given in Appendix E.

3.4.4.3 The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issues as stated in Section 3.1 of Annex 19 of the TM.

3.4.4.4 The assessment of the potential land contamination issue shall follow the detailed requirements given in Appendix F.

3.4.5 **Hazard to Life**

3.4.5.1 The Applicant shall follow the criteria for evaluating hazard to life as stated in Annex 4 of the TM.

3.4.5.2 The Applicant shall also note that there are two high pressure town gas transmission pipelines running across the proposed development site as well as a Towngas Offtake and Pigging Station in the vicinity of the proposed Project. A risk assessment shall be carried out to address the risks associated with all the gas installations, having considered the proposed development during construction and operation of the project. The hazard to life assessment for construction and operation phases of the Project shall follow the detailed technical requirements given in Appendix G.

3.4.5.3 The proposed works also falls within the 1km Potentially Hazardous Installation (PHI) Consultation Zone of Ma On Shan Water Treatment Works (MOSWTW). The Applicant shall conduct a review of the risks from MOSWTW to the Project and assess if risk to life is a key issue with respect to Hong Kong Risk Guidelines given in Annex 4 of the EIAO-TM. Hazard assessment including a Quantitative Risk Assessment (QRA) for MOSWTW shall be conducted if, and only if, risk to life is a key issue with respect to Hong Kong Risk Guidelines following the requirements in Section 12.1 of EIAO-TM. If a QRA for MOSWTW is required, the detailed technical requirements shall follow Appendix G.

3.4.6 **Ecological Impact**

3.4.6.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM.

3.4.6.2 The assessment area for the purpose of this ecological impact assessment shall include areas within 500m distance from the boundary of the Project and any other areas likely to be impacted by the Project.

3.4.6.3 The ecological impact assessment for construction and operation phases of the Project shall follow the detailed technical requirements given in Appendix H.

3.4.8 **Landscape and Visual Impact**

3.4.8.1 The Applicant shall follow the criteria and guidelines as stated in Annexes 10 and 18 of the TM and the EIAO Guidance Note No. 8/2010 on "Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance" for evaluating and assessing the landscape and visual impacts.

3.4.8.2 The assessment area for landscape impact assessment shall include areas within a 500m distance from the site boundary of the Project and any other areas likely to be impacted by the Project. The assessment area for the visual impact assessment shall be defined by the visual envelope of the Project.

3.4.8.3 The landscape and visual impact assessments for operation phase of the Project shall follow the detailed technical requirements given in Appendix I.

3.4.9 **Cultural Heritage Impact**

3.4.9.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing the cultural heritage impacts as stated in Annexes 10 and 19 of the TM.

3.4.11 **Summary of Environmental Outcomes**

3.4.11.1 The EIA report shall contain a summary of the key environmental outcomes arising from the EIA study, including environmental benefits of the Project and the environmental protection measures recommended, population and environmentally sensitive areas protected, environmentally friendly designs recommended, key environmental problems avoided and any compensation area included.

3.4.12 **Environmental Monitoring and Audit (EM&A) Requirements**

3.4.12.1 The Applicant shall identify and justify in the EIA study whether there is any need for EM&A activities during the construction, operation and decommissioning phases of the Project and, if affirmative, define the scope of the EM&A requirements for the Project in the EIA study.

3.4.12.2 Subject to the confirmation of the EIA study findings, the Applicant shall follow the guidelines for an EM&A programme as stated in Annex 21 of the TM.

3.4.12.3 The Applicant shall prepare a Project Implementation Schedule in the form of a checklist as shown in Appendix J of this EIA study brief. It shall contain the EIA study recommendations and mitigation measures with reference to the implementation programme.

4. DURATION OF VALIDITY

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.

5. REPORTING REQUIREMENTS

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 a summary, pointing out where in the EIA report the respective requirements of this EIA Study Brief have been addressed and fulfilled.

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 K. The Applicant shall, upon request, make additional copies of EIA report/ documents available to the public, subject to payment by the interested parties of full costs of printing.

6. OTHER PROCEDURAL REQUIREMENTS

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.

6.2 If there is any key change in the scope of the Project mentioned in sections 1.2 of this EIA Study Brief and in Project Profile (No. PP-517/2014), 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 the EIA study brief, the Applicant shall apply to the Director for a fresh EIA Study Brief.

7. LIST OF APPENDICES

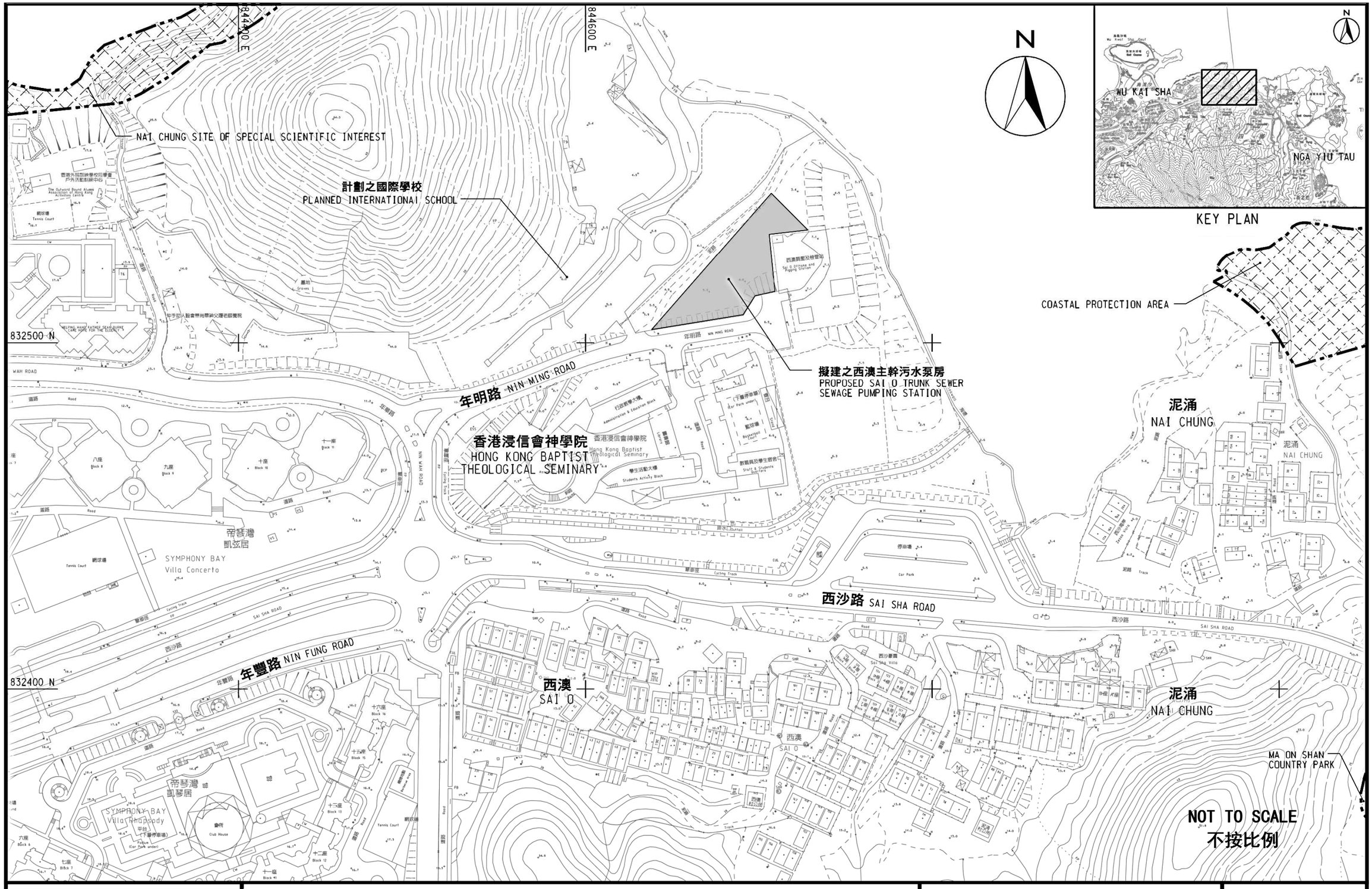
7.1 This EIA Study Brief includes the following appendices:

Appendix A	Project Location Plan
Appendix B	Requirements for Air Quality Impact Assessment
Appendix B-1	Air Quality Modelling Guidelines
Appendix C	Requirements for Noise Impact Assessment
Appendix D	Requirements for Water Quality Impact Assessment
Appendix E	Requirements for Assessment of Waste Management Implication
Appendix F	Requirements for Land Contamination Assessment
Appendix G	Requirements for Hazard Assessment

Appendix H	Requirements for Ecological Impact Assessment (Terrestrial and Aquatic)
Appendix I	Requirements for Landscape and Visual Impact Assessments
Appendix J	Implementation Schedule
Appendix K	Requirements for EIA Report Documents

--- END OF EIA STUDY BRIEF ---

Dec 2014
Environmental Assessment Division,
Environmental Protection Department



Project Title: 工程項目名稱: **Appendix A:** 附錄A:	**Sai O Trunk Sewer Sewage Pumping Station** 西澳幹渠污水泵房 **Project Location Plan** 工程項目位置圖 (This figure was prepared based on Figure 1 extracted from the Project Profile (PP-517/2014)) (本圖是根據工程項目簡介(PP-517/2014)圖1編制)	**EIA Study Brief No.: ESB-281/2014** 環評研究概要編號: **ESB-281/2014**	

Appendix B

Requirements for Air Quality Impact Assessment

The air quality impact assessment shall include the following:

1. Background and Analysis of Activities

(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 construction stage of the Project.

(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 to minimise the air quality impact during construction stage of the Project.

(iii) Presentation of background air quality levels in the study area for the purpose of evaluating cumulative air quality impacts during construction and operation of the Project.

2. Identification of Air Sensitive Receivers (ASRs) and Examination of Emission/ Dispersion Characteristics

(i) Identification and description of existing, planned and committed 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 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.

(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 activities during construction stage of the Project in section 1 above. Confirmation regarding the validity of the assumptions adopted and the magnitude of the activities (e.g. volume of construction material handled, etc.) shall be obtained from the relevant government departments /authorities and documented.

(iii) 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 impact 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. If PATH (Pollutants in the Atmosphere and their Transport over Hong Kong) model is used to estimate the background air quality, details for the estimation of the emission sources to be adopted in the model runs should be clearly presented.

3. Construction Phase Air Quality Impact

(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. A monitoring and audit programme for the construction phase of the Project shall be devised to verify the effectiveness of the control measures proposed so as to ensure proper construction dust control.

(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.

4. Operational Phase Air Quality Impact

(i) The Applicant shall assess the potential air quality impacts at the identified ASRs based on an assumed reasonably worst-case scenario under normal operating conditions. If the assessment indicates likely exceedances of the recommended limits in the TM at the development and the nearby ASRs, a quantitative assessment should be carried out to evaluate the operational phase air quality impacts at the identified ASRs. The Applicant shall follow the methodology set out in Section 5 below when carrying out the quantitative assessment.

(ii) The Applicant shall assess the potential odour impact and impacts from air pollutants arising from the Project/activities in the Project during the operation phase based on assumed reasonably worst-case scenario under normal operating conditions.

(iii) 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 no adverse operational air quality impacts.

5. Quantitative Assessment Methodology

(i) The Applicant shall conduct the quantitative assessment by applying the general principles enunciated in the modelling guidelines in Appendix B-1 while making allowance for the specific characteristic of the Project. Calculation of the pollutant emission rates for input to the model shall be presented in the EIA report. The Applicant shall ensure consistency between the text description and the model files at every stage of submissions for review.

(ii) 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. Ozone Limiting Method (OLM) or Discrete Parcel Method (DPM)

or other method to be agreed with the Director shall be used to estimate the conversion ratio of NO_x to NO_2 if NO_2 has been identified as a key air pollutant.

(iii) The Applicant shall calculate the cumulative air quality impact at the ASRs identified under section 2(i) above 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 should be used to present pollution contours to allow buffer distance requirements to be determined properly.

6. Mitigation Measures for Non-compliance

The Applicant shall propose remedies and mitigating measures where the predicted air quality impact exceeds the criteria set in Section 1 of Annex 4 in the TM. These measures and other associated constraints on future land use planning shall be agreed with the relevant government departments/authorities and documented. The Applicant shall demonstrate quantitatively whether the residual impacts after incorporation of the proposed mitigating measures will comply with the criteria stipulated in Section 1 of Annex 4 in the TM.

7. Submission of Model Files

Input and output file(s) of the model run(s), including those files for generating the pollution contours and emission calculation work sheets, shall be submitted to the Director in electronic format together with the submission of the EIA report.

Appendix B-1

Air Quality Modelling Guidelines

[The information contained in this Appendix is meant to assist the Applicant in performing the air quality assessment. The Applicant must exercise professional judgment in applying this general information.]

The air quality modelling guidelines shall include the following guidelines as published on the website of the Environmental Protection Department (http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model.html):

i) Guidelines on Choice of Models and Model Parameters;
ii) Guidelines on Assessing the 'Total" Air Quality Impact (Revised);
iii) Guidelines on the Use of Alternative Computer Models in Air Quality Assessment (Revised);
iv) Guidelines on the Estimation of PM2.5 for Air Quality Assessment in Hong Kong; and
v) Guidelines on the Estimation of 10-minute Average SO_2 Concentration for Air Quality Assessment in Hong Kong.

Appendix C

Requirements for Noise Impact Assessment

The noise impact assessment shall include the following:

1. Description of the Noise Environment

1.1 The Applicant shall describe the prevailing noise environment in the EIA report.

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.

2. Construction Noise Impact Assessment

2.1 Construction Noise Impact Assessment Methodology

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.

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.

2.2 Identification of Construction Noise Impact

2.2.1 Identification of Assessment Area and Noise Sensitive Receivers

(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 300m from the boundary of the Project and the works of the Project.

(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.

(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.

(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.

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.

2.3 Prediction and Evaluation of Construction Noise Impact

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.

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.

2.3.3 Prediction of Noise Impact

(a) 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.

(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.

(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.

(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.

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.

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.

3. Operational Noise Impact Assessment

3.1 Fixed Noise Sources Impact Assessment Methodology

3.1.1 The Applicant shall carry out fixed noise sources impact assessment from the Project in accordance with the methodology in paragraph 5.2 of Annex 13 of the TM.

3.2 Identification of Fixed Noise Sources Impact

3.2.1 Identification of Assessment Area and Noise Sensitive Receivers

(a) The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the fixed noise sources impact shall generally include areas within 300m from the boundary of the Project and the works of the Project.

(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.

(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

(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.

(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 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.

3.2.2 Inventory of Noise Sources

(a) 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 any industrial noise sources such as ventilation system(s) and sewage pumps, etc.

(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.

(c) Validity of the inventory shall be confirmed with the relevant government departments/authorities and documented in the EIA report.

3.3 Prediction and Evaluation of Fixed Noise Sources Impact

3.3.1 Scenarios

(a) The Applicant shall quantitatively assess the fixed noise sources impact of the Project, with respect to the criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at assessment year of various operation modes including, but not limited to,

i. the worst operation mode which represents the maximum noise emission in connection of identified noise sources of the Project; and

ii. any other operation modes as confirmed with the Director.

(b) Validity of the above operation modes shall be confirmed with relevant departments/authorities and documented in the EIA report.

3.3.2 Prediction of Noise Impact

(a) 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.

(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.

(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.

3.4 Mitigation of Fixed Noise Sources Impact

Direct Mitigation Measures

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 quantified and documented in the EIA report.

3.5 Evaluation of Residual Fixed Noise Sources Impact

Upon exhaust of direct 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 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.

Appendix D

Requirements for Water Quality Impact Assessment

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.

2. 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 including the impacts arising from emergency discharge of sewage.

3. The Applicant shall predict, quantify and assess any water quality impacts arising from the construction and operation of the Project. Possible impacts due to, but not limited to, the construction site run off and the emergency sewage overflow via the nearby stormwater drainage system on the water system(s) and the sensitive receivers within the study area shall include changes in hydrology, flow regime, water quality and sediment quality. 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.

4. The assessment shall address the following during construction and operation stages of the Project:

   (i) collect and review background information on affected existing and planned water systems, their respective catchments and sensitive receivers such as Fish Culture Zone, seawater intake points, SSSI etc, which might be affected by the Project;

   (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/tests;

(iii) identify and analyse relevant existing and planned future activities, beneficial use and water sensitive receivers related to the affected water system(s). The Applicant shall 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;

(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) & (iii) above;

(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;

(vi) identify any alternation of any water courses, natural streams, ponds, wetlands, change of water holding/flow regimes of water bodies, catchment types or areas, erosion or sedimentation due to the Project and any other hydrological changes in the study area;

(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;

(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;

(ix) predict and quantify the impacts on the water system(s) and its/their sensitive receivers due to those alternations and changes identified in

(vi) above including the impacts arising from emergency discharge of sewage, and the pollution sources identified in (vii) above. The prediction shall take into account and include possible different construction and operation stages of the Project;

(x) 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;

(xi) analyse 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;

(xii) 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 overflow via the nearby stormwater drainage system, so as to reduce the water quality impacts to within standards. Appropriate mitigation measures shall be implemented with a view to avoiding emergency sewage overflow to the maximum practicable extent. Requirements to be incorporated in the project contract document shall also be proposed;

(xiii) investigate and develop best management practices to reduce storm water and non-point source pollution as appropriate; and

(xiv) 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.

Appendix E

Requirements for Assessment of Waste Management Implication

The assessment of waste management implications shall cover the following:

1. Analysis of Activities and Waste Generation

   (i) The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction and operation activities of the Project based on the sequence and duration of these activities, e.g. construction and demolition materials (C&DM) and other wastes which will be generated during construction and operation stages.

   (ii) The Applicant shall adopt appropriate design, general layout, construction methods and programme to minimize the generation of public fill/inert C&DM and maximize the use of public fill/inert C&DM for other construction works.

2. Proposal for Waste Management

   (i) Prior to considering the disposal options for various types of wastes, including sewage being screened, opportunities for reducing waste generation, on-site or off-site re-use and recycling shall be fully evaluated. Measures which can be taken in planning and design stages e.g. by modifying the design approach and in the construction stage for maximizing waste reduction shall be separately considered.

   (ii) After considering the opportunities for reducing waste generation and maximizing re-use, the types and quantities of the 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 of the result of the assessment in (iv) below.

(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 waste identified.

(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 :

- potential hazard;
- air and odour emissions;
- noise;
- wastewater discharge;
- ecology; and
- public transport.

Appendix F

Requirements for Land Contamination Assessment

If any contaminated land uses as stated in Sections 3.1 and 3.2 of Annex 19 in the TM is identified, the Applicant shall carry out the land contamination assessment as detailed from sub-paragraphs 1 to 4 below and propose measures to avoid disposal:

1. 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.

2. The Applicant shall provide a clear and detailed account of the present land use (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 uses history, in chronological order, in relation to possible land contamination (including accident records and change of land use(s) and the like).

3. 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).

4. 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 Remedial 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 the Study Area. The CAP, CAR and RAP shall be documented in the EIA report.

5. 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:

(i) a review of the available relevant information;

(ii) an initial contamination evaluation of these sites and possible remediation methods;

(iii) a confirmation of whether the contamination problem at these sites would be surmountable;

(iv) a sampling and analysis proposal which shall aim at determining the nature and the extent of the contamination of these sites; and

(v) where appropriate, a schedule of submission of revised or supplementary CAP, CAR, RAP and RR as soon as these sites become accessible.

Appendix G

Requirements for Hazard Assessment

1. The Applicant shall investigate methods to eliminate and/or minimize risks from town gas/chlorine. The Applicant shall carry out hazard assessment to evaluate potential hazard to life during construction and operation stages of the Project. The hazard assessment shall include but not limited to the following:

   (i) Identify hazardous scenarios associated with town gas/chlorine, and then determine a set of relevant scenarios to be included in a Quantitative Risk Assessment (QRA);

   (ii) Execute a QRA of the set of hazardous scenarios determined in (i), expressing population risks in both individual and societal terms;

   (iii) Compare individual and societal risks with the criteria for evaluating hazard to life stipulated in Annex 4 of the TM; and

   (iv) Identify and assess practicable and cost-effective risk mitigation measures.

2. The methodology to be used in the hazard assessment should be consistent with previous studies having similar issues.

Appendix H

Requirements for Ecological Impact Assessment (Terrestrial and Aquatic)

1. In the ecological impact assessment, 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 minimize impacts on recognized sites of conservation importance and other ecologically sensitive areas. The assessment shall identify and quantify as far as possible the potential ecological impacts to the natural environment and the associated wildlife groups and habitats/species arising from the Project including its construction and operation phases as well as the subsequent management and maintenance of the proposals.

2. The assessment shall include the followings:

   (i) Review of the findings of relevant studies/surveys and collection of the available information regarding the ecological characters of the assessment area;

   (ii) Evaluation of information collected and identification of any information gap relating to the assessment of potential ecological impact;

   (iii) Carrying out necessary field surveys (with a duration of at least four months) and investigation to verify the information collected, fill the information gaps as identified in (ii) above, and to fulfil 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 terrestrial, subtidal and intertidal survey, benthic community survey, and underwater dive survey for coral communities;

   (iv) Establishment of the general ecological profile of the assessment area based on information collected in the tasks mentioned in sub-section (i) to (iii) above, and description of the characteristics of each habitat found.

Major information to be provided shall include:

(a) description of the physical environment, including all recognized sites of conservation importance and other ecologically sensitive areas, and assessment of whether these sites/areas will be affected by the Project or not;

(b) habitat maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats in the assessment area;

(c) ecological characteristics of each habitat type such as size, vegetation type, species present, dominant species found, species diversity and abundance, community structure, ecological value and inter-dependence of the habitats and species, and presence of any features of ecological importance;

(d) representative colour photos of each habitat type and any important ecological features identified; and

(e) species found that are of conservation importance, rare, endangered and/or listed under local legislation, international conventions for conservation of wildlife/ habitats or Red Data Books.

(v) Investigation and description of the existing wildlife uses of the various habitats with special attention to those wildlife groups and habitats with conservation interests, including but not limited to the following:

(a) wetlands including sandy shores, mangrove, watercourses and associated riparian habitats;

(b) woodlands and plantations;

(c) vertebrates (e.g. avifauna, mammals, fish, herpetofauna);

(d) macroinvetebrates (e.g. butterflies, odonates, crustaceans, coral

communities);

(e) any other habitats, animals and plants identified as having special conservation interest by this EIA study.

(vi) Using suitable methodology and considering also other projects in the vicinity of the Project area reasonably likely to occur at the same time, identification and quantification as far as possible of any direct, indirect, on-site, off-site, primary, secondary and cumulative ecological impacts, reduction of species abundance/diversity, loss of feeding grounds, reduction of ecological carrying capacity, habitat fragmentation, and in particular the followings :

(a) loss of habitats as mentioned in Section (v) above;

(b) disturbance to animal and plants, especially those as mentioned in Section (v)(c) – (e) above;

(c) indirect ecological impacts due to potential changes in the water quality, hydrodynamics properties, sedimentation hydrology as a result of surface run-off and emergency sewage overflow on habitats as mentioned in Section (v) above during the construction and operation stages of the Project.

(vii) Evaluation of the significance and acceptability of the 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 operation phases of the Project as well as the subsequent management and maintenance requirement of the Project. Potential cumulative ecological impact on habitats and species of conservation interest arising from the Project and interacting projects as identified in the EIA study shall be evaluated;

(viii) Recommendations for possible alternatives, such as alternative locations and alignment of the Project and modification/change of construction

methods and/or programme, and practicable mitigation measures to avoid, minimize and/or compensate for the adverse ecological impacts identified during construction and operation of the Project;

(ix) Evaluation of the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, resources requirement, subsequent management and maintenance of such measures;

(x) Determination and quantification as far as possible of the residual ecological impacts after implementation of the proposed mitigation measures;

(xi) Evaluation of the significance and acceptability of the residual ecological impacts using well-defined criteria; and

(xii) Review of the need for and recommendation on any ecological monitoring programme required.

Appendix I

Requirements for Landscape and Visual Impact Assessments

1. The Applicant shall review relevant plan(s) and/or studies which may identify areas of high landscape value and recommend country park, coastal protection area, green belt and conservation area 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) and any published land use plans shall be highlighted and appropriate follow-up action shall be recommended.

2. The Applicant shall carry out a baseline review on both the landscape and visual aspects of the study area. The Applicant shall describe, appraise, analyse and evaluate the existing and planned landscape resources and character of the assessment area. A system shall be derived for judging landscape and visual impact significance. Annotated oblique aerial photographs and plans of suitable scale showing the baseline landscape character areas and landscape resources 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 and visual point of view. The sensitivity of the landscape framework and its ability to accommodate change shall be particularly focused on. The Applicant shall identify the degree of compatibility of the Project with the existing and planned landscape setting. The landscape impact assessment shall quantify the potential landscape impact as far as possible so as to illustrate the significance of such impacts arising from the Project. Clear mapping of the landscape impact is required. Where applicable, a broadbrush tree survey shall be carried out and impacts on existing trees shall be addressed. Cumulative landscape and visual impact of project with other committed and planned development shall be assessed.

3. The Applicant shall assess the visual impacts of the Project. Clear illustration

including mapping of visual impact is required. The assessment shall include the following:

(i) identification and plotting of visual envelope of the Project within the study area;

(ii) identification of the key groups of existing and planned sensitive receivers within the visual envelope with regard to views from ground level, sea level and elevated vantage points;

(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;

(iv) The severity of visual impacts in terms of distance, nature and number of sensitive receivers shall be identified. The visual impacts of the Project with and without mitigation measures shall also be included so as to demonstrate the effectiveness of the proposed mitigation measures.

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, layout, design, built-form and construction method that will 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 minimize adverse effects identified above, including provision of a master landscape plan.

5. The mitigation measures shall also include but not limited to the preservation of vegetation and natural landscape resources. Parties shall be identified for the ongoing management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the construction and operation phases

of the Project. A practical programme for the implementation of the recommended measures shall be provided.

6. Annotated illustration materials such as colour perspective drawings, plans and section/elevation diagrams, annotated oblique aerial photographs, photographs taken at vantage points, and computer-generated photomontage shall be adopted to fully 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. the 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. 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.

Appendix J

Implementation Schedule

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stage **			Relevant Legislation & Guidelines
					Des	C	O	

** Des=Design; C=Construction; O=Operation;

Appendix K

Requirements for EIA Report Documents

1. The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:

   (i) 30 copies of the EIA report and 50 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.

   (ii) When necessary, addendum to the EIA report and the executive summary submitted in item (i) above as required under Section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.

   (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.

2. In addition, to facilitate public inspection of EIA report via EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA report and executive summary prepared in Hyper Text Markup Language (HTML) (version 4.0 or later) and in Portable Document Format (PDF version 1.3 or later), unless otherwise agreed by the Director. For the HTML version, a content page capable of providing hyperlink to each section and sub-section of the EIA report and executive summary shall be included in the beginning of the document. Hyperlinks to figures, drawings and tables in the EIA report and 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 unless otherwise agreed by the Director.

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.

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.

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 and their format shall be agreed by the Director.