Annex L

EIA Study Brief (ESB-043/1999)

Environmental Impact Assessment Ordinance (Cap. 499), Section 5 (7)

Environmental Impact Assessment Study Brief No. ESB- 043/1999

Project Title: **Construction of An International Theme Park in Penny's Bay of North Lantau and Its Essential Associated infrastructures**

Name of Applicant: **Civil Engineering Department (hereinafter known as the "Applicant")**

1. BACKGROUND

1.1 An application (No. ESB-043/1999) for an Environmental Impact Assessment (EIA) study brief under section 5(1) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the captioned Applicant on 3.11.99 with a project profile (No. PP-066/1999).

1.2 The Applicant proposes to construct an international theme park of about 180 ha in size on a reclaimed land in Penny's Bay, North Lantau. The location plan of the project indicating the project boundary is shown in the attached Drawing No. PD2007-009D (as provided in the submitted project profile). The proposed theme park development will be located at Penny's Bay originally earmarked for container terminals (CT10 and CT11) under the Lantau Port and Western Harbour Development Studies conducted in 1993. A number of EIA studies have confirmed the feasibility of the reclamation and devised appropriate mitigation measures. The EIA reports that have been previously endorsed by the Environmental Pollution Advisory Committee (EPCOM) and the Advisory Council on the Environment (ACE) are as follows:

(i) *Lantau Port and Western Harbour Development Studies, Final Report, Volume III EIA Report*, Civil Engineering Department (CED), 1993 (EIA-021/BC) endorsed by the EPCOM on 7 Jun 1993

(ii) *Lantau Port Development, Stage 1: Container Terminals No. 10 & 11, Ancillary Works (Design), EIA Final Report*, CED, 1994 (EIA-049/BC) endorsed by the ACE with conditions on 20 Feb 1995

(iii) *Lantau Port Development Stage 1 Container Terminals 10 and 11, Preliminary Design, Final Report, Volume 2: Container Terminal EIA*, CED, 1995 (EIA-057/BC) endorsed by the ACE with conditions on 20 Feb 1995

(iv) *Lantau Port Development Stage 1, Design of Reclamation and Edge Structures for Container Terminals 10 and 11 and Back-up Areas, EIA Final Report*, CED, 1995 (EIA-073/BC) endorsed by the ACE with conditions on 18 Dec 1995

A comprehensive EIA study for the *Northshore Lantau Development Feasibility Study* (SB-044/BC) is now being carried out under Schedule 3 of the EIA Ordinance by CED. The study will address the cumulative environmental impacts arising from all the proposed developments in Northeast Lantau including the proposed theme park.

1.3 The project scope includes the theme park and other essential associated infrastructures related to the theme park development including the followings:

(i) reclamation of about 290 ha of land using marine sand fills and public filling materials, and the construction of about 3.5 km of vertical seawall and sloping seawall to retain the fills;

(ii) theme park and its related development with an area of about 180 ha including hotels of up to 7,000 rooms, retails, dinning and entertainment and any Dangerous Goods (DG) storage;

(iii) two piers;

(iv) road works comprising:

(a) a section of Chok Ko Wan Link Road (Expressway Standard) from the existing Yam O Interchange to the valley near the existing power station of China Light and Power (CLP). This 1.5 km long section of road will be dual three lanes with a roundabout adjacent to the existing CLP station;

(b) Road P2 (Primary Distributor) together with an access road at Yam O to connect the proposed Yam O rail station to the theme park. The proposed Road P2 will be dual 2/dual 3 lanes and of about 4 km long with two roundabouts. A reclamation of size about 10 ha. is required at Yam O to accommodate part of the proposed road works;

(c) a 3.5 km long resort road (District Distributor) around the proposed theme park; and

(d) a central pedestrian walkway in the middle of the park of length about 800m.

(v) a water recreation centre with a lake of size about 23 ha. for irrigation and water sport recreation activities, together with de-silting and pumping facilities;

(vi) a stormwater drainage system consisting of an open channel of width about 50m and length about 1.2 km, and box culvert and pipelines of various widths and lengths;

(vii) a sewerage network including pumping stations, chambers and wells together with the associated gravity sewers and pumping mains;

(viii) essential facilities for the operation of the theme park including:

(a) two public parking areas at Penny's Bay;

(b) a Public Transport Interchange (PTI) near the proposed Penny's Bay rail station and a temporary PTI at Yam O rail station; and

(c) pipelines for fresh, salt and irrigation water supply, and utilities.

(ix) a new rail line from the Tung Chung Line at Yam O to Penny's Bay, comprising stations at Yam O and at the theme park, and a 3.5km long railway, partly in tunnel;

(x) road side buffers, berms and landscaping works; and

(xi) slope stabilization works.

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 the construction and operation of the proposed designated projects and related activities taking 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 proposed project;

(ii) the conditions and requirements for the detailed design, construction and operation of the proposed project to mitigate against adverse environmental consequences wherever practicable; 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 proposed project and associated works together with the requirements for carrying out the proposed project;

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

(iii) to identify and quantify all environmental sensitive receivers, emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;

(iv) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;

(v) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;

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

(vii) to propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operation of the project;

(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 in relation to the

sensitive receivers and potential affected uses;

(ix) 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 environmental impacts and reducing them to acceptable levels;

(x) to investigate the extent of side-effects of proposed mitigation measures that may lead to other forms of impacts;

(xi) to identify constraints associated with the mitigation measures recommended in the EIA study;

(xii) to identify, within the study area, any individual project(s) that fall under Schedule 2 of the EIA Ordinance; to ascertain whether the findings of this EIA study have adequately addressed the environmental impacts of those projects; and where necessary, to identify the outstanding issues that need to be addressed in any further detailed EIA study; and

(xiii) to design and specify the environmental monitoring and audit requirements, if required, to ensure the implementation and the effectiveness of the environmental protection and pollution control measures adopted.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The purpose of this study brief is to scope the key issues of the EIA study. 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 fully complied with.

The Scope

3.2 The scope of this EIA study shall cover the proposed projects and associated works mentioned in section 1.3 above. The EIA study shall cover the combined impacts of all these developments and the cumulative impacts of the existing, committed and planned developments in the vicinity of the proposed projects, in accordance with the requirements laid down in section 3.4 of the TM. The environmental impacts of on-site and off-site works and facilities associated with the proposed developments shall be addressed. 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) noise impacts arising from construction and operation of the development, in particular the noise due to firework shows;

(ii) air quality impacts arising from construction and operation of the development including impacts due to emission from Penny's Bay power station and pollutants (including odour and pollutants like dioxin, volatile organic

compounds (VOC) and heavy metals, if any) released during fireworks show;

(iii) landscape and visual impacts during construction and operation of the development;

(iv) glare impacts due to laser and fireworks show on nearby receivers including passengers on air, land and sea;

(v) water quality impacts during construction and operation, including sewage collection/treatment systems and stormwater system;

(vi) risk on storage and handling of fireworks and risk on aircraft due to fireworks show;

(vii) potential impacts on archeological sites; and

(viii) impacts on fauna due to the operation of the theme park, especially during nighttime.

Technical Requirements

3.3 The Applicant shall conduct the EIA study to address all environmental aspects of the works and activities as described in the scope set out above.

Use of the Relevant Findings of Previously Approved EIA Reports and Relevant Studies

3.4 The Applicant shall review all on-going and previously approved studies/EIA studies relevant to the proposed development and extract relevant information for the purpose of this EIA study. The on-going and previously approved studies/EIA studies relevant to the proposed development include, but not limited to:

(i) Port and Airport Development Strategy (PADS) (Dec. 1989);
(ii) Lantau Port and Western Harbour Development (LAPH) Studies, CED (Mar. 1993);
(iii) Lantau Port Development, Stage 1: Container Terminals No. 10 & 11, Ancillary Works (Design), CED (Dec. 1994);
(iv) Lantau Port Development Stage 1 Container Terminals 10 and 11, Preliminary Design Study, CED (Aug. 1995);
(v) Lantau Port Development Stage 1, Design of Reclamation and Edge Structures for Container Terminals 10 and 11 and Back-up Areas, CED (Aug. 1995);
(vi) Lantau Port Development Stage 1 Marine Mammal Survey, Final Report, CED, (1996);
(vii) Lantau Port Development Stage 1 Fish Fry Survey, CED (Feb. 1997);
(viii) Lantau Port Development Stage 1 Fisheries Resources Survey, CED (Jun.

1997);

(ix) Dolphins *(Sousa chinensis)* in East Lantau Waters of Hong Kong: Assessment of Potential Effects of Port Development, CED (Sept. 1997)

(x) Population biology of the Indo-Pacific Hump-backed Dolphin *(Sousa chinensis Osbeck, 1975)* in Hong Kong Waters, Final Report, AFD (Apr. 1998)

(xi) Fisheries Resources and Fishing Operations in Hong Kong Waters, AFD (Mar. 1998);

(xii) Port Survey 96/97 by Capture Fisheries Division of AFD (Aug. 1998)

(xiii) East Lamma Channel Final Assessment Report, CED;

(xiv) East Lamma Channel Borrow Area – Scoped Environmental Assessment, Final Report, CED (Jan. 1993);

(xv) East Lamma Channel Borrow Area Scoped Environmental Assessment Supplementary Water Quality Modelling, CED;

(xvi) Backfilling of South Tsing Yi and North of Lantau Marine Borrow Areas: Final Environmental Impact Assessment Report, CED (Nov. 1995)

(xvii) Backfilling of Marine Borrow Pits, North Lantau and South Tsing Yi: Feasibility Study/EIA, CED;

(xviii) Environmental Impact Assessment of Backfilling Marine Borrow Areas at East Tung Lung Chau – Final Report, CED (Feb. 1998);

(xix) Tang Lung Chau Dangerous Goods Anchorage EIA, TDD (May 1999)

(xx) South-East Tsing Yi Port Development Planning and Engineering Feasibility Study for Container Terminal No. 9 - Final Report and Appendices, (Aug. 1991)

(xxi) Outlying Islands Sewerage Master Plan Stage 1 Phase I, DSD (Sep. 1997)

(xxii) Route 10 – North Lantau to Yuen Long Highway, Investigation and Preliminary Design, EIA Final Assessment Report, HyD (on-going)

(xxiii) Northshore Lantau Development Feasibility Study, CED (on-going)

(xxiv) Outlying Islands Sewerage Master Plan Stage 2 Review, EPD (on-going)

Consideration of Different Options and Transport Modes

3.5 The EIA study shall take into consideration with clear and objective comparison of the environmental benefits and disbenefits of different siting and alignment options, with or without the proposed developments. This is particularly relevant to the size, shape, method and sequence of reclamation as well as the type of transport modes (such as rail, monorail, travellator, trolley bus, and etc.). In formulating the preferred options, the Applicant shall seek to avoid adverse environmental effects to the maximum practicable extent.

Territory-wide Environmental Implications of the Additional Tourists

3.6 The Applicant shall assess the overall territory-wide environmental implications of the additional tourists attracted by the international theme park development. There should be a chapter in the EIA report to address the environmental implications in broad terms.

Cumulative Environmental Impacts

3.7 The Applicant shall assess and evaluate the cumulative environmental impacts arising from the international theme park development and other planned developments in its vicinity. Findings of relevant environmental studies, in particular the EIA for the Northshore Lantau Development Feasibility Study, shall be reviewed and incorporated into the EIA report. Particular attention shall be paid on the assessment on the cumulative impacts due to:

(a) loss of natural coastline on Lantau and surrounding areas on marine mammals and fisheries
(b) concurrent reclamation works; and
(c) the transport load and associated air pollution during construction and operation of the theme park.

3.8 The EIA study shall include the following technical requirements on specific impacts.

3.8.1 Air Quality Impact

3.8.1.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing air quality impact as stated in Annexes 4 and 12 of the TM, respectively.

3.8.1.2 3.8.1.2 The "Assessment Area" for air quality impact shall be normally defined by a distance of 500m from the boundary of the scope of EIA study as defined in section 3.2 above, yet it may be extended depending on the circumstances.

3.8.1.3 For construction impacts, the Applicant shall ensure the construction works will follow the requirements of the Air Pollution Control (Construction Dust) Regulation in dust control and, subject to section 3.8.14 below, the Applicant shall initiate an audit and monitoring program during the constructional stage to ensure construction dust impacts are controlled within the relevant standard as stipulated in Annex 4 of the TM.

3.8.1.4 The construction and operation air quality assessment shall include the following:

(i) presentation of background air quality (including zone) in the study area for the purpose of identifying the key issues which may have implications on the proposed project's development and, evaluating the cumulative air quality impacts of the proposed project;

(ii) addressing the significance, if any, of the likely increase in air pollutants due to the proposed project by estimating the additional air pollutant emissions in HKSAR caused by internal traffic and cross-boundary traffic of the theme park-bound tourist;

(iii) description of the topographical and man-made features (including features of the proposed project) which may affect the dispersion characteristics of air pollutants (including emissions from Penny's Bay power station) within the study area;

(iv) identification of representative air sensitive receivers and/or potential affected uses;

(v) identification of emission characteristics and provision of an emission inventory of the existing, committed and planned air pollution sources including the Penny's Bay power station and those from the theme park construction and operation. The inventory shall include odour and pollutants like dioxins, VOC and heavy metals, if any emitted from the proposed fireworks displays, if any;

(vi) description of assessment method (whether analytical or numerical, etc.) and associated assumptions, validity of the method and limits of application. The methodology used shall be agreed with the Director before commencement of the relevant assessment in the EIA study;

(vii) analysis of operational activities identified in (v) above including but not limited to:

(a) emissions from Penny's Bay power station;

(b) pollutants (including odour and pollutants such as dioxins, VOC and heavy metal, if any) released from the proposed fireworks displays;

(c) vehicle emissions from roads and public parking areas;

(d) off-site and territory-wide impacts caused by internal traffic and theme park-bound tourists;

(e) emissions from fuel combustion equipment including boilers to be installed in the proposed project;

(f) odour, if any from sewage pumping station; and

(g) impacts of alternative access modes to the international theme park shall be considered.

(viii) assessment and evaluation of the net and cumulative construction dust and operational air quality impacts;

(ix) presentation of the assessment results in the form of summary table and pollution contours, whenever practicable, for comparison with relevant air quality standards and the examination of the land use implications of these impacts;

(x) proposals of effective mitigation measures to reduce the cumulative air pollution impacts to established standards;

(xi) the air quality implications of any proposed noise mitigation measures should be assessed. If noise mitigation measures such as noise canopy, which will affect dispersion of air pollutants are proposed to mitigate noise impact due to traffic flow, then the Applicant shall also assess the implications of such mitigation measures on air quality impact. If noise canopy in the form of total enclosure is proposed, then both "tunnel" portal emissions and air quality inside the "tunnel" shall also be addressed;

(xii) the Applicant shall submit all input and output files of the model run(s) in electronic format to the Director; and

3.8.2 Noise Impact

3.8.2.1 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.

3.8.2.2 The noise impact assessment shall include the following:

(i) Determination of Assessment Area

The "Assessment Area" for the noise impact assessment shall include all areas within 300m from the boundary of the scope of EIA study as defined in section 3.2 above. Subject to the agreement of the Director, the assessment area could be reduced accordingly if the first layer of noise sensitive receivers, closer than 300m from the boundary of the scope of EIA study as defined in section 3.2 above, provides acoustic shielding to those receivers at further distance behind. Subject to the agreement of the Director, the area shall be expanded to include NSRs at larger distance which would be affected by the construction and operation of the proposed project.

(ii) Provision of Background Information and Existing Noise Levels

The Applicant shall provide all background information relevant to the project, e.g. relevant previous or current studies. Unless involved in the planning standards, e.g. those for planning of fixed noise sources, no existing noise levels are particularly required.

(iii) Identification of Noise Sensitive Receivers

(a) The Applicant shall refer to Annex 13 of the TM when identifying the noise sensitive receivers (NSRs). The NSRs shall include all existing NSRs and all planned/committed noise sensitive developments and uses earmarked on the relevant Outline Zoning Plans (OZP), Outline Development Plans and Layout Plans. The Applicant shall review and take into account of the latest progress of the planning land-uses to be recommended in the ongoing Northshore Lantau Development Feasibility Study (NSLDFS).

(b) The Applicant shall select assessment points to represent all identified NSRs for carrying out quantitative noise assessment described below. The assessment points shall be agreed with the Director prior to the quantitative noise assessment. A map showing the location and description such as name of building, use, and floors of each and every selected assessment point shall be given. For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant planning parameters to work out site layouts for operational noise assessment purpose.

(c) Among other assessment points, the Applicant shall consider noise impacts on the North Lantau Country Park.

(iv) Provision of an Emission Inventory of the Noise Sources

The Applicant shall provide an inventory of all noise sources during construction and operation of the proposed development. For traffic noise assessment, the inventory shall include the road traffic data. Confirmation of the validity of the inventory shall be obtained from the relevant government departments/ authorities.

(v) Construction Noise Assessment

(a) The Applicant shall carry out assessment of noise impact from construction (excluding percussive piling) of the project during day time, i.e. 7 a.m. to 7 p.m., on weekdays other than general holidays in accordance with the methodology stipulated in paragraphs 5.3. and 5.4 of Annex 13 of the TM. The criteria in Table 1B of Annex 5 of the TM shall be adopted in the assessment.

(b) To minimise the construction noise impact, alternative construction methods to replace percussive piling shall be proposed as far as practicable.

(c) If the unmitigated construction noise levels are found exceeding the relevant criteria, the Applicant shall propose practicable direct mitigation measures (including movable barriers, enclosures, quieter alternative methods, re-scheduling and restricting hours of operation of noisy task) to minimise the impact. If the mitigated noise levels still exceed the relevant criteria, the duration of the noise exceedance shall be given.

(d) In case the Applicant would like to evaluate whether construction works in restricted hours as defined under the Noise Control Ordinance (NCO) are feasible or not in the context of programming construction works, reference should be made to the relevant technical memoranda issued under the NCO. Regardless of the results of the construction noise impact assessment for restricted hours, the Noise Control Authority will process the 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 the EIA report.

(vi) Operational Noise Assessment

(a) Rail Noise

(a1) The Applicant shall assess the impacts of the operation of the proposed railway from Yam O to Penny's Bay within the "Assessment Area" with respect to the acceptable levels contained in Table 1A in Annex 5 in the TM. The assessment methodology including the railway/train design noise level

shall be agreed with the Director prior to the commencement of the assessment.

(a2) The Applicant shall present the noise levels in Leq(30min) and Leq(24hr), Lmax during the day and at night at the NSRs at various representative floor levels (in m P.D.) on tables and plans of suitable scale.

(a3) The Applicant shall propose direct mitigation measures in all situations where the predicted noise level exceeds the criteria set out in Table 1A of Annex 5 of the TM to protect the affected NSRs.

(b) Fixed Noise Sources

(b1) The Applicant shall identify any fixed noise sources within the "Assessment Area", including all activities within the theme park, any sewage pumping stations, any pump houses, electricity sub-station, bus depot/terminus, public transport interchange, open car/lorry park, etc. The Applicant shall calculate the expected noise using standard acoustics principles. Calculations for the expected noise shall be based on assumed plant inventories and utilization schedule for the worst case scenario. The Applicant shall calculate the noise levels taking into account of correction of tonality, impulsiveness and intermittence in accordance with the Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites.

(b2) The Applicant shall present the noise levels in Leq(30min) or other unit(s) as agreed by the Director, at the NSRs at various representative floor levels (in m P.D.) on tables and plans of suitable scale.

(b3) A quantitative assessment at the NSRs for the fixed noise source(s) shall be carried out and compared against the criteria set out in Table 1A of Annex 5 of the TM.

(b4) The Applicant shall propose direct mitigation measures within the project limits in all situations where the predicted noise level exceeds the criteria set out in Table 1A of Annex 5 of the TM to protect the affected NSRs.

(c) Fireworks

(c1) The Applicant shall propose criteria, noise metric and methodology in assessing the noise impact arising from fireworks, and, such criteria, noise metric, and methodology shall be approved by the Director prior to the commencement of the assessment. The Applicant shall evaluate the assumed worst case scenarios of fireworks inventories and the display schedule.

(c2) The Applicant shall propose direct mitigation measures within the project

limits in all situations if the predicted noise level exceeds the criteria.

(d) Road Traffic Noise

(d1) Calculation of Noise Levels

The Applicant shall analyse the scope of the proposed road alignment(s) to identify appropriate new and existing road sections for the purpose of traffic noise impact assessment. When an existing road section undergoes major modification which will directly result in 25% increase in lanes or substantial changes in alignment or characters (e.g. change to a high speed road) of the existing road, it shall be regarded as a new road for the purpose of this noise impact assessment.

The Applicant shall calculate the expected road traffic noise using methods described in the U.K. Department of Transport's "Calculation of Road Traffic Noise" (1988). Calculations of future road traffic noise shall be based on the peak hour traffic flow in respect of the maximum traffic projection within a 15 years period upon commencement of operation of the proposed roadwork. The Applicant shall calculate traffic noise levels in respect of each road section and the overall noise levels from combined road sections (both new and existing) at NSRs.

(d2) Presentation of Noise Levels

The Applicant shall present the prevailing and future traffic noise levels in L10(1hr) at the NSRs at various representative floor levels (in m P.D.) on tables and plans of suitable scale.

Quantitative assessment at the NSRs for proposed road alignment(s) shall be carried out and compared against the criteria set out in Table 1A of Annex 5 in the TM. The potential noise impact of proposed road alignment(s) shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive elements that will be exposed to noise levels exceeding the criteria set in Table 1A of Annex 5 in the TM.

(d3) Proposals for Noise Mitigation Measures

After rounding of the predicted noise levels according to the U.K. Department of Transport's "Calculation of Road Traffic Noise" (1988), the Applicant shall propose direct technical remedies in all situations where the predicted traffic noise level exceeds the criteria set in Table 1A of Annex 5 in the TM by 1 dB(A) or more. Specific reasons for not adopting certain direct technical remedies in the design to reduce the traffic 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 laid down. The

total number of dwellings, classrooms and other noise sensitive element that will be benefited by the provision of direct technical remedies should be provided.

The total number of dwellings, classrooms and other noise sensitive elements that will still be exposed to noise above the criteria with the implementation of all recommended direct technical remedies shall be quantified.

In case where a number of the NSRs cannot all be protected by the recommended direct technical remedies, the Applicant shall identify and estimate the total number of existing dwellings, classrooms and other noise sensitive elements which may qualify for indirect technical remedies under the Executive Council directive "Equitable Redress for Persons Exposed to Increased Noise Resulting from the Use of New Roads", the associated costs and any implications for such implementation. For the purpose of determining the eligibility of the affected premises for indirect technical remedies, reference shall be made to the following set of three criteria:

(1) the predicted overall noise level from the new road together with other traffic noise in the vicinity must be above a specified noise level (e.g. 70 dB(A) for domestic premises and 65 dB(A) for education institutions, all in L10(1hr));

(2) the predicted overall noise level is at least 1.0 dB(A) more than the prevailing traffic noise level, i.e. the total traffic noise level existing before the works to construct the road were commenced; and

(3) the contribution to the increase in the predicted overall noise level from the new road must be at least 1.0dB(A).

(e) Helicopter Noise

The Applicant shall predict the long-term and short-term noise impacts arising from the operation of the helicopter with respect to the criteria set in Table 1A of Annex 5 in the TM. The assessment methodology shall be agreed with EPD prior to commencement of the assessment. The Applicant shall propose noise control or mitigation measures to minimise impacts to an acceptable level.

(f) Aircraft Noise

The Applicant shall predict the long-term and short-term noise impacts arising from the operation of aircraft with respect to the criteria set in Table 1A of Annex 5 in the TM. The assessment methodology shall be

agreed with EPD prior to commencement of the assessment. The Applicant shall propose noise control or mitigation measures to minimise impacts to an acceptable level.

(vii) Assessment of Side Effects and Constraints

The Applicant shall identify, assess and propose means to minimize any side effects and to resolve any potential constraints due to the inclusion of any recommended direct technical remedies.

(viii) Evaluation of Constraints on Planned Noise Sensitive Developments/Landuses

For planned noise sensitive uses which will still be affected even with all practicable direct technical remedies in place, the Applicant shall propose, evaluate and confirm the practicality of additional 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.

The Applicant shall take into account agreed environmental requirements / constraints identified by the study to assess the development potential of concerned sites which shall be made known to the relevant parties.

3.8.3 Water Quality Impact

3.8.3.1 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 during the construction and operation phases.

3.8.3.2 The Applicant shall conduct the following detailed water quality assessment unless the Applicant can demonstrate with sufficient justification that the anticipated water quality impacts of the project and the associated cumulative impacts (e.g. the construction of container terminal No. 9) are less than or equal to those in the previously approved EIA studies.

Water Quality Impact Assessment

3.8.3.3 The "Assessment Area" for the purpose of water quality impact assessment shall cover all relevant sensitive receivers in North Western, Western Buffer and Southern Water Control Zones (WCZs) identified in section 2.1 (iii) above.

3.8.3.4 The Applicant shall identify and analyze all physical, chemical and biological disruptions of marine water system arising during the construction and operation of the project (including the impacts arising from emergency discharge from sewage pumping stations and sewer bursting discharge). The Applicant shall address the following:

General

(i) collection and review of background information on the existing water system(s) and the respective catchment(s);

(ii) characterization of water and sediment quality based on existing information or site surveys/ tests as appropriate;

(iii) identification and analysis of all existing and planned future activities and beneficial uses related to the water system(s) and identification of all water sensitive receivers including inshore water protection/recreation areas;

(iv) identification of pertinent water quality objectives and establishment of other appropriate water quality and sediment criteria or standards for the water system(s) and all sensitive receivers affected by the project;

(v) identification of any alteration of water course, natural stream/ponds, wetland, change of shoreline or bathymetry and change of flow regimes; change of ground water levels, change of catchment types or areas;

(vi) identification, analysis and quantification of all existing and likely future water and sediment pollution sources, including point discharges and non-point sources to surface water runoff. Field investigation and laboratory tests shall be conducted as appropriate;

(vii) establishment and provision of an emission inventory on the quantities and characteristics of all these pollution sources;

Impact Predictions

(viii) prediction and quantification by mathematical modelling or other technique approved by the Director, of the impacts on the water system(s) and the sensitive receivers due to those alterations and changes identified in (v) and the pollution sources identified in (vi) above. Possible impacts include changes in hydrology, flow regime, sediment erosion or deposition, water and sediment quality and the effects on the aquatic organism due to such changes. The prediction shall take into account and include likely different construction stages or sequences, different operation stages. Cumulative impacts due to other projects, activities or pollution sources within a boundary around the Study Area to be agreed by the Director shall also be predicted and quantified;

(ix) assessment and evaluation of water quality impacts on the sensitive receivers due to the operation of the theme park development. Among other receivers, the impact on the operation of the Discovery Centre at Sz Pak Wan shall be included;

Waste Water and Non-point Sources Pollution

(x) analysis on the adequacy of existing and planned future sewerage infrastructure to receive discharges of waste water identified in (vi) above;

(xi) analysis on the provision and adequacy of existing and planned future facilities to reduce pollution arising from the non-point sources identified in (vi) above;

(xii) identification of on the alignment, volume and possible pollutants contained in storm water discharge;

(xiii) analysis on the characteristics of sewage nature ;

(xiv) identification and quantification of the stormwater, wastewater and non-point sources pollution loads to the artificial lake during operational phase and taking into account of quality of sediment left *in situ* and analysis whether the lake is suitable for secondary recreational activities as proposed;

(xv) analysis and assessment of the impacts due to additional sewage diverted from the project to Siu Ho Wan Sewage Treatment work on North Lantau waters;

(xvi) assessment on the impacts of using chlorine as a disinfectant in the theme park, in particular on the potential of generation of carcinogenic and toxic organic chlorides;

(xvii) identification and assessment of the residual impacts of any pesticides and herbicides (if applied) on the marine water, the artificial lakes and other inland water courses;

Dredging, Filling and Dumping

(xviii) identification and quantification of all dredging, fill extraction, filling, reclamation, sediment/ mud transportation and disposal activities and requirements. Potential fill source and dumping ground to be involved shall also be identified. Consideration shall be given to the use of public fill for reclamation. Field investigation, sampling and laboratory tests to characterize the sediment/ mud concerned shall be conducted as appropriate. The ranges of parameters to be analyzed; the number, type and methods of sampling/ sampling preservation/ laboratory tests; and the laboratory to be used shall be approved by the Director. Particular attention shall be given to the requirement of WBTC No. 22/92 on "Marine Disposal of Dredged Material";

(xix) prediction, quantification and assessment of impacts on the physical regime, water and sediment quality of the marine water system and the nearby sensitive receivers due to the activities identified in (xviii) above. The prediction and quantification of

impacts caused by sediment re-suspension and contaminants release shall be carried out by mathematical modelling or other techniques approved by the Director;

(xx) identification and evaluation of the best practicable dredging and reclamation methods to minimize dredging and dumping requirements and demand for fill sources based on the criterion that existing marine mud shall be left in place and not be disturbed as far as possible;

(xxi) evaluation of the impacts due to release of the interstitial water and associated contaminants to the water column, if wick drain installation is employed to speed up consolidation of mud;

(xxii) Prediction and quantification of cumulative impacts due to other dredging, filling or dumping activities within a boundary around the Study Area to be agreed by the Director;

(xxiii) Among other sensitive receivers, impact on the operation of the Discovery Centre at Sz Pak Wan shall be addressed; and

(xxiv) Proposal of effective mitigation measures to control the spread of floating refuse originated from the public fill during construction phase;

Mitigation

(xxv) Proposal of effective infrastructure upgrading or provision, water pollution prevention and mitigation measures to be implemented during the construction, operation stages so as to reduce the water and sediment quality impacts to within acceptable levels of standards. Best management practices to reduce storm water, pesticides and herbicides and non-point source pollution shall be investigated and proposed as appropriate; and

(xxvi) evaluation and quantification of residual impacts on the water system(s) and the sensitive receivers with regard to the appropriate water and sediment quality criteria, standards and guidelines.

3.8.4 Sewerage and Sewage Treatment Implications

3.8.4.1 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.

3.8.4.2 The Applicant shall investigate and determine the need and the feasibility of having central pre-treatment facilities and/or a separate sewage treatment plant within the study area.

3.8.4.3 The Applicant shall study and assess the impacts of the pumped sewage discharge to the

Siu Ho Wan Sewage Treatment Works (SHWSTW). The assessment shall include the following:

(i) investigate and review the adequacy of the existing sewerage and treatment facilities for absorbing part or all of the sewage discharge from the proposed development within the scope of EIA study as defined in section 3.2 above. The Applicant shall confirm in the EIA report that the upgrading of Siu Ho Wan Sewage Treatment works will be completed prior to the opening of the theme park and the appropriate treatment level shall be assessed;

(ii) any additional sewage flows and flow projections from other planned developments to be connected to the Siu Ho Wan Sewage Treatment Works (such as the developments in Discovery Bay, Tai Ho, Tung Chung, Northeast Lantau Outline Zoning Plan and etc.) shall also be assessed (Any additional flows to SHWSTW should be controlled and recorded, i.e. provision of flowmeter.) The water quality impacts arising from the effluent discharge of SHW STW and its proposed extension, if any, shall be assessed in accordance with section 3.8.3 above.

(iii) based on the above items (i) and (ii), if the existing sewerage capacities cannot cope with the maximum discharges, the Applicant shall propose an optimal and cost-effective upgrading works to improve the existing sewerage and sewage treatment facilities or to provide new sewerage and sewage treatment facilities to receive and transport the sewage. Any proposed sewerage system should be designed to current DSD standard. Computerised analysis techniques such as HYDROWORKS may be used in the preliminary design. The Drainage Services Department (DSD)'s requirements of HYDROWORKS Model Transfer are given in Appendix 1;

(iv) identify and quantify the water quality and ecological impacts due to the emergency discharge from sewage pumping stations and sewer bursting discharge, and to propose measures to mitigate these impacts;

(v) identify the alignment of the sewerage to Siu Ho Wan Sewage Treatment work;

(vi) set out the design, operation and maintenance requirements for any proposed sewage treatment facilities, such as pumping station(s) and central pre-treatment facilities for food catering effluent (if recommended), including electrical and mechanical components to eliminate the problem of septicity incurred in long rising main(s) during low flows and to facilitate maintenance. The design, operation and maintenance requirements for the proposed sewage treatment facilities 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 sea directly).

3.8.5 Waste Management Implications

3.8.5.1 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.

3.8.5.2 The assessment of waste management implications shall cover the following in the construction and operational stages of the developments proposed within the scope of EIA study as defined in section 3.2 above.

(i) Analysis of Activities and Waste Generation

The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction and operational activities, based on the sequence and duration of these activities.

(ii) Proposal for Waste Management

(a) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation shall be fully evaluated.

(b) Having been taken into account all the opportunities for reducing waste generation, the types and quantities of the wastes required to be disposed of as a consequence shall be estimated and the disposal options for each type of waste described in detail. The disposal method recommended for each type of wastes shall take into account the result of the assessment in (d) below.

(c) The Applicant shall identify the designated disposal site for construction waste generated from the proposed works.

(d) The impact caused by handling (including labeling, packaging & storage), collection, and disposal of wastes (including solid waste arising from sewage pumping stations, e.g. grits and sludge), shall be addressed in detail. This assessment shall cover but not limited to the following areas :

- potential hazard;
- air and odour emissions;
- noise;
- wastewater discharge;
- floating refuse along the water front and the piers;
- pest nuisance; and
- public transport.

(e) The Applicant shall recommend effective measures to be taken to minimise the impacts and nuisance (including pest control measures at temporary refuse collection points for storage of waste

pending disposal).

3.8.5.3 The Applicant shall adopt the design, the general layout, the construction method and the programme that will maximise the use of public fill for the reclamation works.

3.8.6 Hazard to Life (Storage, use, transport, handling and processing of dangerous goods)

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

3.8.6.2 The Applicant shall include the following in the risk assessments:

(i) identification of all hazardous scenarios associated with the storage, use, transport, handling and processing of dangerous goods (including fireworks and sodium hypochlorite/chlorine) during operation stages. Hazard identification should fully take account past incident data, in particular for fireworks;

(ii) execution of a Quantitative Risk Assessment expressing population risks in both individual and societal terms;

(iii) comparison of individual and societal risks with the Criteria for Evaluating Hazard to Life stipulated in Annex 4 of the TM;

(iv) identification and assessment of practicable and cost-effective risk mitigation measures by means of cost-benefit analys is;

(v) determining whether the theme park and its associated facilities will pose acceptable levels of risk to the public off-site and the visiting population after mitigation; and

(vi) Separate risk assessments will be required for visiting population (on-site) and off-site population taking into account hazards from fireworks and sodium hypochlorite/chlorine.

3.8.6.3 The Applicant shall approach the Director for detailed requirements for risk assessment for dangerous goods.

3.8.7 Ecological Impact (Terrestrial and Aquatic)

3.8.7.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM respectively during the construction and operational phases. The assessment shall include the ecological survey of the "Assessment Area" as defined in section 3.8.7.2 below

3.8.7.2 The "Assessment Area" for the purpose of terrestrial ecological assessment shall include all areas within 500m distance from the scope of EIA study as defined in section 3.2 above, or the area likely to be impacted by the proposed developments. The "Assessment Area" for the purpose of marine ecological assessment shall be the same as the "Assessment Area" for water quality impact assessment.

3.8.7.3 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 proposed project shall avoid impacts on recognized sites of conservation importance and other ecological sensitive areas. The assessment shall identify and quantify as far as possible the potential ecological impacts associated with the proposed development.

3.8.7.4 The assessment shall include the following major tasks:

(i) review and incorporate the findings of relevant studies including the on-going EIA of the Northshore Lantau Development Feasibility Study (NSLDFS) and collate all the available information regarding the ecological characters of the "Assessment Area" (wet- and dry-season ecology surveys have been undertaken under the NLSDFS which commenced in June 1998 covering the scope of the project as mentioned in section 1.2 above)

(ii) evaluate the information collected and identify any information gap relating to the assessment of potential ecological impacts to the terrestrial and aquatic environment;

(iii) carry out any necessary field surveys and investigations to fill in the information gap, if any, and to fulfil the objectives of the EIA study;

(iv) present all relevant survey findings including previous surveys conducted in the Northshore Lantau Feasibility Development Study EIA and relevant studies together with surveys carried out under this study;

(v) establish the general ecological profile and describe the characteristics of each habitat found; major information to be provided shall include:

(a) description of the physical environment;

(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, inter-dependence of the habitats and species, and presence of any features of ecological importance;

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

(e) species found that are rare, endangered and/or listed under local legislation, international conventions for conservation of wildlife/habitats or red data books;

(vi) investigate and describe the existing wildlife uses of various habitats with special attention to:

(a) woodlands;
(b) natural coastline including rocky and sandy shores;
(c) coastal bay;
(d) natural stream courses;
(e) marine life and vertebrates, in particular the Chinese White Dolphin *(Sousa chinensis)* and Finless Porpoise;
(f) mammals, such as barking deer, which may use the area as part of their range; and
(g) any other habitats and wildlife groups identified as having special conservation interests by the study.

(vii) describe all recognized sites of conservation importance in the proposed development site and its vicinity and assess whether these sites will be affected by the proposed developments or not;

(viii) using suitable methodology, identify and quantify as far as possible any direct, indirect, on-site, primary, secondary and cumulative ecological impacts such as destruction of habitats, reduction of species abundance/diversity, loss of feeding grounds, reduction of ecological carrying capacity and habitat fragmentation; and in particular the following:

(a) habitat loss and disturbance to wildlife, such as barking deer, during construction and operation stages, including the impacts due to fireworks and laser shows on the wildlife;
(b) impacts associated with dredging and filling operations during construction;
(c) deterioration of environmental qualities (e.g. water qualities) and the subsequent impacts to the biological communities during operation stage; and
(d) impacts on ecology due to sewer bursting and emergency discharge from sewage pumping stations should also be assessed.

(ix) consider and evaluate alternative design scheme to minimize the adverse impacts to the ecological system(s). Amount other measures, consideration shall be given to the feasibility to retain the natural coastlines on the both sides of the proposed lake

and the coastline at the open channel. Comparative assessment of impacts on reclamation and non-reclamation of the mentioned coastline shall be included;

(x) evaluate the significance and acceptability of the ecological impacts identified using well-defined criteria;

Assessment of Impacts on Chinese White Dolphins *(Sousa chinensis)* and Finless Propoise

(xi) review and incorporate the findings of relevant studies including the previous dolphins studies as mentioned in section 3.4 above and collate all the available information regarding the ecological characters of the "Assessment Area" ;

(xii) evaluate the information collected and identify any information gap relating to the assessment of potential impacts on the Chinese White Dolphins and Finless Propoise;

(xiii) carry out necessary field surveys and investigations to fill the information gaps identified, if any, and to fulfil the objectives of the EIA study;

(xiv) present all relevant survey findings including previous surveys conducted in relevant studies together with surveys carried out under this study;

(xv) assess the impacts on the Chinese White Dolphin and Finless Propoise due to loss in habitat and food supply;

(xvi) assess the cumulative impacts of reclamation around Lantau Island on the dolphins;

(xvii) identify precautionary and mitigatory measures for protection of the Chinese White Dolphins and Finless Propoise. The proposed measures shall include those recommended in previous EIA studies and dolphins studies, such as ecological monitoring on the dolphins during construction phase;

Ecological Mitigation/Compensation Measures

(xviii) recommend all possible alternatives (such as modifications of layout and design) and practicable mitigation measures to avoid, minimize and/or compensate for the adverse ecological impacts identified, such as layout and designs to recreate the natural intertidal and subtidal shores lost through reclamation;

(xix) evaluate the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, subsequent management and maintenance of such measures;

(xx) determine and quantify as far as possible the residual ecological impacts after implementation of the proposed mitigation measures;

(xxi) evaluate the severity and acceptability of the residual ecological impacts using well-defined criteria. If off-site mitigation measures are considered necessary to mitigate the residual impacts, the guidelines and requirements laid down in the Planning Environment & Lands Bureau Technical Circular (PELB TC) No. 1/97 "Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures" (or any subsequent technical circular issued to replace PELB TC No. 1/97 on this subject) shall be followed;

(xxii) identify and present an adequate package of measures, both on-site and off-site, to fully compensate all ecological losses due to the project; and

(xxiii) review the need for and recommend any ecological monitoring programme required.

3.8.8 Fisheries Impact

3.8.8.1 Fisheries Impact Assessment shall follow the criteria and guidelines as specified in Annexes 9 and 17 of the TM respectively. The "Assessment Area" for the purpose of the fisheries impact assessment shall include the scope of EIA study as defined in section 3.2 above, and its adjacent area of potential impact. The assessment shall review and collate existing information to provide adequate and accurate data for prediction and evaluation of impacts of the proposed developments on fisheries. The assessment shall include the following:

(i) description of the physical environmental background;

(ii) description and quantification as far as possible of the existing fisheries activities, with special attention on fish culture zones near Ma Wan;

(iii) description and quantification as far as possible of the existing fisheries resources;

(iv) identification of parameters and area that are important to fisheries;

(v) identification and quantification as far as possible of any direct/indirect and on-site/off-site impacts to fisheries, including loss of habitats, nursery and spawning grounds and those impacts on fishery due to sewer bursting and emergency discharge from sewage pumping stations;

(vi) evaluation of impacts on the Ma Wan fish culture zones as a result of water quality changes during construction stage including impacts on fish growth and fatality;

(vii) evaluation of impacts of fish growth at Ma Wan Fish Culture Zones due to water current changes after completion of the project;

(viii) evaluation of impacts on fisheries during construction and operation stages in areas around Penny's Bay, Discovery Bay, Ma Wan and other affected areas and the loss of habitat and food supply for marine mammals. The Applicant shall make proposals for any practicable alternatives or mitigation measures to prevent/minimize adverse impacts on fisheries;

(ix) evaluation of cumulative impacts of loss of natural coastline on Lantau and surrounding areas on marine mammals and fisheries;

Fisheries Mitigation/Compensation Measures

(x) identify practical mitigation measures to avoid/minimize the potential impacts on the fisheries;

(xi) identify and present an adequate package of measures to fully compensate all the losses due to the project. Among others measures, the deployment of artificial reefs shall be assessed and considered; and

(xii) determine the need and, if necessary, make appropriate recommendation for a fishery monitoring and audit programme.

3.8.9 Impact on Cultural Heritage

3.8.9.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing impacts on cultural heritage as stated in section 2 of both Annexes 10 and 19 of the TM respectively. The detailed criteria for cultural heritage impact assessment are enclosed in Appendix 2 to be followed.

3.8.9.2 The heritage impact assessment shall be conducted for the archaeological impacts to known archaeological sites including, but not limited to, those at Wan Tuk, Chok Ko Wan and Pak Tau Kwu.

3.8.9.3 The heritage impact assessment shall focus on the evaluation of impacts on archaeological areas, historic buildings and cultural heritage and proposals for any mitigation measures with detailed elaboration on scope of work including:

(i) heritage resources of archaeological areas and historic buildings shall be identified as far as practicable through reference to appropriate records, such as the archives of the Antiquities and Monuments Office (AMO) of the Home Affairs Bureau, and, where appropriate, through consultations with relevant village representatives, appropriate academic sources and other Government sources, including the Lands Department, District Offices, etc.;

(ii) in case that the above information sources prove inadequate or if parts of the proposed project area have not been adequately studied before, field surveys and site investigations shall be

conducted to assemble the necessary data; and

(iii) the criteria to be adopted to assess the level of direct and indirect impacts to the heritage resources and to develop appropriate mitigation measures, shall be established in close liaison with AMO during the course of the EIA Study.

3.8.9.4 The Applicant shall review and incorporate the findings of previous marine archaeological investigation (MAI) at the proposed reclamation area and carry out additional investigation as necessary to adequately assess the cultural and heritage value of the underwater archaeological sites at Penny's Bay. The MAI to be conducted shall employ appropriate maritime geophysical survey techniques to be agreed with AMO and EPD. An example of such techniques would be the use of conventional side scan sonar at 25 metre centres to scan the seabed for the detection of potential existence of archaeological resources, wrecks of ancient trade ships, etc. A detailed maritime geophysical survey report of the reclamation area shall be prepared and studied by professional marine archaeologist so that archaeological information can be retrieved from the survey data. Based on the archaeological information retrieved, the archaeologist shall determine whether any cultural remains do exist within the reclamation area. Upon receipt of the MAI report, the Applicant shall agree with AMO and EPD to decide whether further underwater archaeological investigation shall be undertaken to identify the cultural remains. Mitigation measures shall be designed and the appropriate marine archaeological works shall be carried out in order to rescue the cultural remains and if found necessary.

3.8.10 Landscape and Visual Impact

3.8.10.1 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 Technical Memorandum. The assessment shall cover all items classified as Designated Project under Schedule 2 of the EIAO. Both construction and operation impacts shall be assessed.

3.8.10.2 The assessment area for the landscape impact assessment shall include all areas within a 500m distance from the proposed project. The assessment area for the visual impact assessment shall be defined by the 8-km radius visual envelope from the proposed project.

3.8.10.3 The Applicant shall review relevant outline development plans, outline zoning plans, layout plans, planning briefs and studies which may identify areas of high landscape value, and recommend green belt and conservation area designations. Any guidelines on urban design concept, landscape framework, designated view corridors, and open space network that may affect the appreciation of the project should also be reviewed. The aim is to gain an insight to the future outlook of the area so that the project can fit into surrounding setting. Any conflict with statutory town plan(s) should be highlighted and appropriate follow-up action should be recommended.

3.8.10.4 The Applicant shall describe, appraise and analyse the existing landscape resources and

character of the assessment area. The sensitivity of the landscape framework and its ability to accommodate change shall be particularly focused on. A system should be derived for judging impact significance. The Applicant shall identify the degree of compatibility of the proposed project with the existing landscape. The assessment shall quantify the potential landscape impacts as far as possible, so as to illustrate the significance of such impacts arising from the proposed project. Clear mapping of the landscape impact is required.

3.8.10.5 The Applicant shall assess the visual impacts of the proposed project(s). Clear illustrations of visual impact assessment are required. The assessment shall include the following:

(i) identification and plotting of visibility contours* of the proposed project within the assessment area;

(ii) identification of the key groups of sensitive receivers within the visibility contours and their views at both ground/sea levels and elevated vantage points;

(iii) description of the visual compatibility of the project with the surrounding, and the planned setting and its obstruction and interference with the key views of the adjacent areas. Among other receivers, sensitive receivers shall include hikers, users of recreational water users, ferry users and other residences with view across to Lantau; and

(iv) the severity of visual impacts in terms of distance, nature and number of sensitive receivers. Nighttime glare and activities such as fireworks shall be considered in the assessment. 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.

(Note *: Visibility Contour (VC) is the graduation of potential visibility of a development as viewed from surrounding contours. It refers to the altitude or elevation of the derived by projecting the height of the proposed development across a contour map of the surrounding area to show the extent of areas from where the development can be viewed and at which locations the development will be screened by the landform or by existing woodland. The VC map can be established by creating a sector of 5 or 10 degree in a radial pattern and projecting from the highest point of the development to the land profile generated from the contours within the sector to show the exposed and screened areas. Visual screening offered by existing woodlands can be determined by adding tree heights to altitude to show the true height of the trees. The accuracy of the VC should be verified by field survey.)

3.8.10.6 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 design 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 Applicant shall recommend mitigation measures to minimize the adverse effects identified above, including provision of a landscape design. The mitigation measures shall include preservation of vegetation, transplanting of mature trees, provision of screen planting and road side

berms, revegetation of disturbed land, compensatory planting, provisioning of amenity areas and open spaces, provision of finishes to structures, deposition of buildings, colour scheme and texture of material used and any measures to mitigate the impact on existing land use. Parties shall be identified for the on going management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the operation phase of the project. The mitigation measures proposed shall not only be concerned with damage reduction but should also include consideration of potential enhancement of existing landscape. A practical programme and funding proposal for the implementation of the recommended measures shall be provided.

3.8.10.7 Coloured perspective drawings, plans and section/elevation diagrams, annotated oblique aerial photographs, photo-retouching and computer-generated photomontage shall be adopted to fully illustrate the landscape and visual impacts of the proposed project(s) to the satisfaction of the Director. All computer graphics shall be compatible with Microstation DGN file format. The Applicant shall record the technical details such as system set-up, software, data files and function in preparing the illustration which may need to be submitted for verification of the accuracy of the illustrations.

3.8.10.8 To facilitate the landscape and visual impact assessments (LVIA), a plan showing the nature and layout of different uses within the theme park including key architectural/design features, building heights, development intensities, internal circulation system and broad landscaping proposals would also be required.

3.8.10.9 The environmental impact assessment of the theme park shall include the visual impact of the general proposed design features and activities which will be conducted within the theme park with illustrative materials to facilitate public understanding of the project. Visual impact assessment shall cover construction and operational stage measured from sensitive receivers of representative viewpoints.

3.8.10.10 When preparing the LVIA on the proposed road works and essential infrastructural requirements, the height and bulk of the proposed works inclusive of all ancillary facilities/structures such as noise barriers, slope cutting, vent shaft, embankments, viaducts, tunnel portals, retaining structures, etc shall be indicated clearly. Their impacts on the surrounding landscape shall be shown in 3-dimensional illustrations (including photomontages).

3.8.10.11 A system should be derived for judging landscape and visual impact significance. The predicted impacts should be a function of the sensitivity and the magnitude of change. Presentation of landscape impacts at construction and operation stages in table form should include items covering existing landscape resources, source of impact, type of impact, magnitude of change, landscape sensitivity, mitigation measures and residual impacts. Similarly, the presentation of visual impacts at both construction and operation stages should include, but not limited to, location of key visually sensitive receivers (VSR), type of VSR, minimum distance from VSRs, sensitivity, primary source of impact and magnitude of change, mitigation measures and residual impacts. Illustration materials should be prepared to facilitate understanding of the predicted impacts arising from the project.

3.8.10.12 As an integral part of the EIA, environmental impacts on land uses shall also be assessed, including those on the cultural heritage/archeological features, works areas and temporary uses, land take, relocation / reprovisioning and compatibility with existing/subject to more refined scope for the project(s).

3.8.11 Requirement for the identification of projects falling under Schedule 2 (Designated Projects) of the EIAO

3.8.11.1 The Applicant shall identify clearly in the EIA report all items within the Scope of the EIA study, as defined in section 3.2 above, that are classified as Designated Projects (DPs) under Schedule 2 of the EIAO.

3.8.11.2 For those DPs identified in section 3.8.11.1 above, of which the environmental impacts have been adequately addressed in this EIA study in accordance with the Study Brief and TM requirements, a separate schedule of mitigation measures shall be provided for each DP in this EIA report in the format stipulated in section 3.8.11.3 below.

3.8.11.3 Any DP identified in section 3.8.11.1 above that require further detailed EIA studies to assess outstanding environmental issues shall be clearly identified and listed in an easily understandable format in the EIA report. The indicative scope of the detailed EIA studies required to adequately address the outstanding environmental issues of these DPs shall be set out in the EIA report."

3.8.12 Impacts Summary

To facilitate easy retrieval of important information, an impacts summary in the form of a table, or any other form approved by the Director, showing the assessment points, results of impact predictions, relevant standard or criteria, extent of exceedance predicted, if any, mitigation measures proposed and residual impacts, if any, after mitigation measures are implemented, etc., should be given at the end of each chapter on individual impact in the EIA report as well as the Executive Summary.

3.8.13 Summary of Environmental Outcomes

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

3.8.14 Environmental Monitoring and Audit (EM&A) Requirements

3.8.14.1 The Applicant shall identify and justify in the EIA study whether there is any need for

EM&A and/or environmental management system (EMS) activities during the construction and operation phases of the proposed developments and, if affirmative:

(i) to define the scope of the EM&A requirements for the proposed developments in the EIA study; and/or

(ii) to set out the EMS requirements for the construction and operation of the proposed developments to achieve satisfactory environmental performance.

3.8.14.2 Subject to the confirmation of EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM.

3.8.14.3 The Applicant shall prepare a project implementation schedule (in the form of a checklist as shown in Appendix 3 or as approved by the Director) containing all the EIA study recommendations and mitigation measures with reference to the implementation programme. To facilitate issue of Environmental Permits (EPs) in future, the implementation schedules shall be grouped under individual works packages in separate DPs where applicable.

3.8.15 Monitoring of Noise Impacts during Operation of the Proposed Developments

The Applicant should note the requirement stipulated in paragraph 8.1 of the TM that an operational noise monitoring programme should be proposed to verify the traffic noise predictions or the effectiveness of noise mitigation measures.

4. DURATION OF VALIDITY

This EIA study brief is valid for 24 months from the date of issue. If the EIA study does not commence within this period, the Applicant shall apply to the Director for another EIA study brief afresh before commencement of the EIA study.

5. REPORT 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.

5.2 The Applicant shall supply the Director with the following number of hard copies of the EIA report and the Executive Summary:

(i) 50 hard copies of the EIA report in English and 80 hard 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, unless advised otherwise by the Director;

(ii) where necessary, addendum to each copy of the EIA report and the Executive Summary submitted in (i) above, upon advice by the Director.

(iii) for the purpose of the public inspection required under section 7(1) of the EIAO, 50 hard copies of the EIA report and 80 hard copies of the Executive Summary (each bilingual in both English and Chinese), including any addendum if required in section 5.2 (ii) above, to be supplied to the locations stipulated in the "Guidance Note on Advertisement and Public Inspection of Documents" issued under the EIAO, unless advised otherwise by the Director;

(iv) 20 hard copies of the EIA report in English and 50 hard copies of the Executive Summary (each bilingual in both English and Chinese), including any addendum if required in section 5.2 (ii) above, to be supplied to the Secretary of Advisory Council on the Environment (ACE), upon advice by the Director for consultation with the ACE, as required under section 7(5) of the EIAO.

(v) 5 hard copies of the EIA report in English and 10 hard copies of Executive Summary (each bilingual in both English and Chinese), with any addendum if required in section 5.2 (ii) above, for deposition in the Register, if and when the EIA report is approved by the Director, as required under section 8(5) of the EIAO.

5.3 The Applicant shall make additional hard copies of the above documents available to the public, subject to payment by the interested parties of full costs of printing.

5.4 In addition, to facilitate the public inspection of the EIA Report via the EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA Report and the Executive Summary Report prepared in HyperText Markup Language (HTML) (version 4.0 or later) and in Portable Document Format (PDF version 4.0 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 the Executive Summary Report shall be included in the beginning of the document. Hyperlinks to all figures, drawings and tables in the EIA Report and Executive Summary shall be provided in the main text from where the respective references are made. All graphics in the report shall be in interlaced GIF format unless otherwise agreed by the Director.

5.5 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.

5.6 When the EIA Report and the Executive Summary are made available for public inspection under section 7(1) of the EIA Ordinance, 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.

5.7 To promote environmentally friendly and efficient dissemination of information, both hard

copies 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.

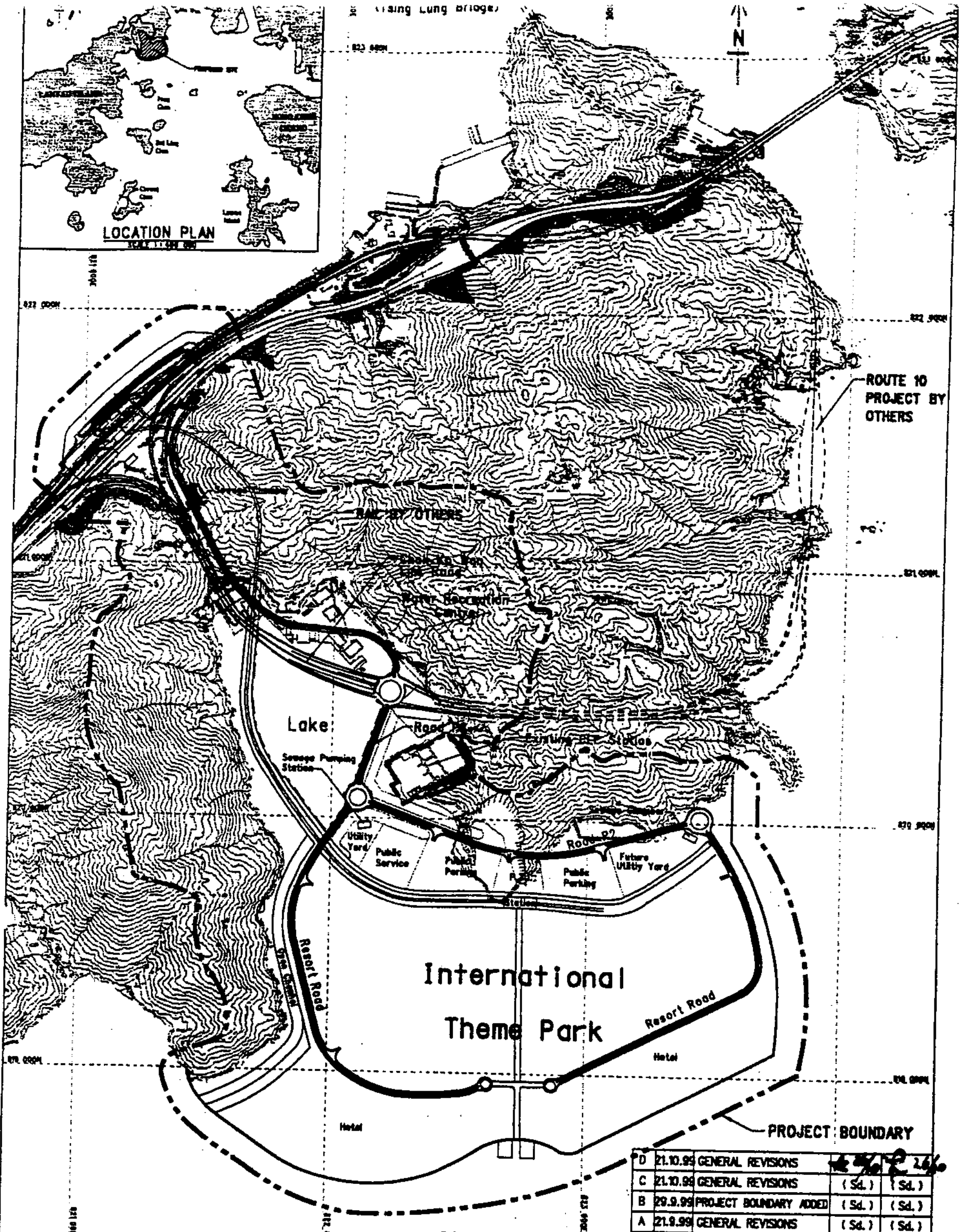
6. OTHER PROCEDURAL REQUIREMENTS

6.1 During the EIA study, if there is any change in the name of Applicant for this EIA study brief, the Applicant in this study brief must notify the Director immediately.

6.2 If there is any key change in the scope of the project mentioned in section 1.2 of this EIA study brief and in Project Profile No. PP-066/1999, 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 another EIA study brief afresh.

--- END OF EIA STUDY BRIEF ---

December1999
Environmental Assessment and Noise Division,
Environmental Protection Department



no.	date	description	checked	approved
D	21.10.99	GENERAL REVISIONS		
C	21.10.99	GENERAL REVISIONS	(Sd.)	(Sd.)
B	29.9.99	PROJECT BOUNDARY ADDED	(Sd.)	(Sd.)
A	21.9.99	GENERAL REVISIONS	(Sd.)	(Sd.)

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title

PROPOSED THEME PARK DEVELOPMENT AND ITS ASSOCIATED INFRASTRUCTURES

	name	initial	date
designed			
drawn	L. S. TSE	(Sd.)	31.8.99
checked	C. S. LEUNG	(Sd.)	31.8.99
approved	M. Y. TANG	(Sd.)	31.8.99

office: PORT DEVELOPMENT DIVISION
CIVIL ENGINEERING OFFICE

drawing no. **PD2007-009D**

scale 1:20 000

CIVIL ENGINEERING DEPARTMENT HONG KONG

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HydroWorks Model Transfer (Sewerage) – Information Required

i) HydroWorks Input files

a) Project files

Suffix	Contents
.prj	Project description for identification of the project. A printout is required to indicate the associated files of each project.

b) Asset files

Suffix	Contents
.DSD	Details of the sewerage system (asset data). A textural printout is required for each .DSD file and a layout plan is also required for each model.
.SHP	Details of non-standard pipe shapes.
.LUD	Land use index & other related indices. Information includes that related to the .WWG profiles and to the sub-catchment.

c) Event files

Suffix	Contents
.LEV	Input level hydrograph data. A graphical printout is required.
.QIN	Input discharge hydrograph data at nodes. A graphical printout is required.
.DWF	Diurnally-varying dry weather flow (dimensionless hydrograph data).
.WWG	Wastewater flow (and wastewater pollutant) profiles.
.PRM	Details of runoff parameters. Subcatchment information related to a node. A textural printout is required.
.RED	Rainfall intensity profile across the whole catchment. A graphical printout is required.

d) Simulation files

Suffix	Contents
.CTL	Control data for a simulation. This file contains a single record, which sets the timesteps that the simulation uses.
.EVT	Event data for simulation. The event file contains a list of records that describe pending events that the simulation will run.
.GGS	Details of pipes to be gauged to gather detailed results during a simulation.
.JOB	Job file for a simulation process. The file contains input and output filenames for the simulation pre-processor and the simulation. A printout is required.
.SIM	Parameters used for numerical calculations carried out by hydraulic network model.
.SPS	Hydraulic state file of the network model at an instance in time.
.SPH	State of runoff and washoff at end of simulation.
.SPB	Binary code details of the drainage system.

ii) HydroWorks Output files

Suffix	Contents
.PRN	Summary result from Simulation. A printout is required for the result of each run.
.HYD	Details of depth hydrographs for gauged pipes. A graphical printout is required for each gauged pipe.
.HYQ	Details of discharge hydrographs for gauged pipes. A graphical printout is required for each gauged pipe.
.HYV	Details of velocity hydrographs for gauged pipes. A graphical printout is required for each gauged pipe.
.log	Details of input files, warnings, and errors from simulation & simulation preprocessor.
.PRI	Summary output from simulation pre-processor
.SPR	Details of summary hydrographs from the simulations
.TXT	Summary of hydraulic simulation results and return period analysis results. A textual printout is required for each file.
.SPB	Network definition of validated data.
.SPH	State of runoff and washoff at end of a simulation.
.SPR	Hydraulic simulation results.

Note :

There may be multiple sets of HydroWorks input and output files to describe different basins within the Study Area and also to test different hydraulic and physical conditions within a catchment under different scenarios or planning years. A clear description shall be given to indicate the conditions.

iii) Model building information & Drawings

- A description of the methods used to calculate storm runoff, including the values used for the runoff parameters
- A description of the methods of modelling dry weather flow inputs
- A description of the production of the design rainfall profiles
- Descriptions of any model simplifications made during the model building process
- Mark-up sewerage record plans showing catchment areas and sub-catchment areas of the final sewerage network models numbered using the HydroWorks pipe numbering nomenclature (in the form of both soft copy and hard copy)
- Database showing detailed breakdown (e.g. population, area, unit flow, peaking factor) of the input data used in the input files (in the form of both soft copy and hard copy)
- Descriptions of data sources and the process of gathering and checking the data
- Tailor-made computer programmes with printed source code for establishment of the models

iv) Flow survey and model verification information

- Original recorded flow survey depth, flow and rainfall files
- Plots comparing observed and predicted flows and depths produced during the model verification process
- A description of any model amendments made during the verification process

Criteria for Cultural Heritage Impact Assessment

(1) Baseline Study

1.1 A baseline study shall be conducted :

a. to compile a comprehensive inventory of archaeological sites (including marine archaeological sites), historic buildings and structures within the proposed project area, which include:

(i) all sites of archaeological interest (including marine archaeological sites);
(ii) all pre-1950 buildings and structures;
(iii) selected post-1950 buildings and structures of high architectural and historical significance and interest; and
(iv) landscape features include sites of historical events or providing a significant historical record or a setting for buildings or monuments of architectural or archaeological importance, historic field patterns, tracks and fish ponds and cultural element such as *fung shui* woodlands and clan grave.

b. to identify the direct and indirect impacts on the site of cultural heritage 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 in its settings causing impinge on its character through inappropriate sitting or design, potential damage to the physical fabric of archaeological remains, historic buildings or historic landscapes through air pollution, change of water-table, vibration, recreation pressure and ecological damage by the development. The impacts listed are merely to illustrate the range of potential impacts and not intended to be exhaustive.

1.2 The baseline study shall also include a desk-top study and a field survey.

1.3. Desk-top Research

1.3.1 Desk-top searches should be conducted to analyse, collect and collate extant information. They include :

a. Search of the list of declared monuments protected by the Antiquities and Monuments Ordinance (Chapter 53).

b. Search of the list of deemed monuments through the Antiquities and Monuments Office (AMO) of the Home Affairs Bureau.
c. Search of the list of sites of cultural heritage identified by the AMO.
d. Search of 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, Antiquities and Monuments Office Monograph Series and so forth.
e. Search of 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.
f. Search of any other unpublished archaeological investigation and excavation reports kept by the AMO.
g. Search of 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.
h. Search of cartographic and pictorial documents. Maps of the recent past searched in the Maps and Aerial Photo Library of the Lands Department.
i. Study of existing Geotechnical information (for archaeological desk-top research).
j. Discussion with local informants.

1.4 Field Evaluation

1.4.1 The potential value of the development site with regard to the cultural heritage could be established easily where the site is well-documented. However, it does not mean that the site is devoid of interest if it lacks information. In these instances, a site visit combined with discussions with appropriate individuals or organisations should be conducted by those with expertise in the area of cultural heritage to clarify the position.

1.4.2 Historic buildings and structures survey

a. Field scan of all the historic buildings and structures within the project area.

b. Photographic recording of each historic building or structure 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 of each historic building or structure.
c. Interview with local elders and other informants on the local historical, architectural, anthropological and other cultural information related to the historic buildings and structures.
d. Architectural appraisal of the historic buildings and structures.

1.4.3 Archaeological Survey

Appropriate methods of field evaluation should be applied to assess the archaeological potential of the project area :

a. Definition of areas of natural land undisturbed in the recent past.
b. 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.
c. Conduct systematic auger survey/shovel testing to establish the horizontal spread of cultural materials deposits.
d. 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.

1.4.4 If the field evaluation identifies any additional sites of cultural heritage within the study area which are of potential historic or archaeological importance and not recorded by AMO, the office should be reported as soon as possible. The historic and archaeological value of the items will be further assessed by the AMO.

1.5 The Report of Baseline Study

1.5.1 The study report should have 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 sites of cultural heritage supported by full description of their cultural significance. The description should contain detailed geographical, historical,

archaeological, architectural, anthropological, ethnographic and other cultural data supplemented with illustrations below and photographic and cartographic records.

1.5.2 Historic Buildings and Structures

a. A map in 1:1000 scale showing the boundary of each historic building or structure.
b. Photographic records of each historic building or structure.
c. Detailed record of each historic building or structure including its construction year, previous and present uses, architectural characteristics, as well as legends, historic persons and events, and cultural activities associated with the structure.

1.5.3 Archaeological Sites

a. A map showing the boundary of each archaeological site as supported and delineated by field walking, augering and test-pitting;
b. Drawing of stratigraphic section of test-pits excavated which shows the cultural sequence of a site.

1.5.4 A full bibliography and the source of information consulted should be provided to assist the evaluation of the quality of the evidence. It is expected that the study and result are up to an internationally accepted academic and professional standard.

(2) Impact Assessment

2.1 Culture heritage impact assessment must be undertaken to identify the impacts of the sites of cultural heritage 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 an expert in cultural heritage. During the assessment, both the direct impacts such as loss or damage of important features as well as indirect impacts such as change of water table levels which may affect the preservation of the archaeological and built heritage in situ should be stated. A detailed description and plans should be provided to elaborate to what extent the site of cultural heritage will be affected.

2.2 Preservation in totality must be taken as the first priority. Please refer to

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 Process for the detailed requirements of the impact assessment.

(3) Mitigation Measures

3.1 It is always a good practice to recognise the site or monument 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. Built heritage, sites and landscapes are to be in favour of preservation unless it can be shown that there is a need for a particular development which is of paramount importance and outweighs the significance of the heritage feature.

3.2 If avoidance of the cultural heritage is not possible, amelioration can be achieved by reduction of the potential impacts and the preservation of heritage features, 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 cultural heritage and affecting its character.

3.3 All the assessments should be conducted by an expert in cultural heritage and further evaluated and endorsed by the Antiquities and Monuments Office and the Antiquities Advisory Board.

3.4 Besides refer to paragraph 4.3.1(d), items 2.10 to 2.14 of Annex 19 and other relevant parts of the Technical Memorandum. Proposals for mitigation measures should be accompanied with a master layout plan together with all detailed treatment, elevations, and landscape plan. 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 an archaeological site " by record", i.e. through excavation to extract the maximum data as the very last resort.

3.5 The programme for implementation of agreed mitigation measures should be able to be implemented. It is to be clearly stated in the EIA report, as required in Annex 20 of the Technical Memorandum. 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 partially preserved Site of Cultural Heritage, if any, during the planning and design stage of the proposed project must be detailed.

Appendix 3

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	Dec	

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

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