



ENVIRONMENTAL PROTECTION DEPARTMENT
THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION

Agreement No. 20/2022 (EP)
Development of Integrated Waste Management Facilities Phase 3 –
Feasibility Study

SCOPE

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Feasibility Study

Scope

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1 Introduction

- 1.1 This Scope provides details of the requirements and information relating to the consultancy services for carrying out the feasibility study for the development of Integrated Waste Management Facilities Phase 3. The Scope is also to be read in addition to and in accordance with the requirements and constraints stated in the *additional conditions of contract* and Contract Data for the contract. For the avoidance of doubt but without prejudice to *conditions of contract* clause 16 as amended by the Schedule to the Memorandum of Agreement, the performance of the *services* specified herein is subject to *conditions of contract* clauses 21.2 and 80.1 as amended by the Schedule to the Memorandum of Agreement.
- 1.2 The following table lists out the abbreviated titles of Government bureaux, departments, offices, statutory bodies and public organizations mentioned in this Scope:

Abbreviation	Full Title
ACE	Advisory Council on the Environment
AFCD	Agriculture, Fisheries and Conservation Department
AMO	Antiquities and Monuments Office of LCSD
ArchSD	Architectural Services Department
CEDD	Civil Engineering and Development Department
DC	District Council
DEP	Director of Environmental Protection
DEVB	Development Bureau
DLO	District Lands Office of Lands Department
DO	District Office of Home Affairs Department
DSD	Drainage Services Department
EACSB	Engineering and Associated Consultant Selection Board of CEDD
EMSD	Electrical and Mechanical Services Department
EPD	Environmental Protection Department
ETWB	(the then) Environment, Transport and Works Bureau
FSD	Fire Services Department
GEO	Geotechnical Engineering Office of CEDD
HAD	Home Affairs Department
HKGBC	Hong Kong Green Building Council
HKIBIM	Hong Kong Institute of Building Information Modelling
HKPF	Hong Kong Police Force
HKSAR	Hong Kong Special Administrative Region
HyD	Highways Department
LandsD	Lands Department
LCSD	Leisure and Cultural Services Department
LegCo	Legislative Council
MD	Marine Department
PlanD	Planning Department

Abbreviation	Full Title
TD	Transport Department
THB	Transport and Housing Bureau
TPB	Town Planning Board
WSD	Water Supplies Department

1.3 The following table lists out the abbreviations for expressions adopted in this Scope:

Abbreviation	Full Expression
AHR	Airport Height Restriction
BEAM	Building Environmental Assessment Method
CASET	Computer Aided Sustainability Evaluation Tool
DEVB TC(W)	Development Bureau Technical Circular (Works)
DIA	Drainage Impact Assessment
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance, Cap. 499
EM&A	Environmental Monitoring & Audit
EP	Environmental Permit issued under EIAO
ETWB TC(W)	Technical Circulars (Works) issued by the then Environment, Transport and Works Bureau
GEO TGN	Technical Guidance Notes issued by GEO
GI	Ground Investigation
GIS	Geographic Information System
HyD TC	Highways Department Technical Circular
IWMF	Integrated Waste Management Facilities
MSW	Municipal Solid Waste
NEC	New Engineering Contract
OZP	Outline Zoning Plan
PAH	Project Administration Handbook issued by CEDD
PDS	Project Definition Statement
PWP	Public Works Project
RSS	Resident Site Staff
SA	Sustainability Assessment
SI	Site Investigation
SIA	Sewerage Impact Assessment
TFS	Technical Feasibility Statement
TIA	Traffic Impact Assessment
TPEDM	Territorial Population and Employment Data Matrices
WBTC	Technical Circulars issued by the then Works Bureau, the then Works Branch, the then Lands & Works Branch or the then Public Works Department

1.4 Any clause referred to in this Scope means the clause of this Scope unless stated otherwise.

2 Description of the Project

- 2.1 The *services* aim to carry out site search and feasibility studies for the development of the Integrated Waste Management Facilities Phase 3 (hereafter referred as “IWMF3” and the development of which is hereafter referred to as “the Project”) in Hong Kong. The *services* would facilitate the Hong Kong Special Administrative Region (HKSAR) Government in selecting the potential sites for IWMF3.
- 2.2 In February 2021, the HKSAR Government unveiled the Waste Blueprint for Hong Kong 2035 (the Waste Blueprint)¹ setting out the vision of “Waste Reduction•Resources Circulation• Zero Landfill”. The Waste Blueprint is a long-term policy document outlining the strategies, goals and measures to tackle the challenges of waste management up to year 2035. To realize the vision of the Waste Blueprint, the Government will move towards two main targets:
- **Medium-term target:** gradually reduce the per capita municipal solid waste (MSW) disposal and increase the recovery rate through implementing MSW charging and other policies and legislation, waste reduction and recycling initiatives;
 - **Long-term target:** develop adequate waste-to-energy facilities to move away from the reliance on landfills.
- 2.3 The Chief Executive announced in the Policy Address in 2020 that the HKSAR would strive to achieve carbon neutrality before 2050 through the implementation of various actions. The Government promulgated the Hong Kong's Climate Action Plan 2050 in October 2021, setting out the vision of "Zero-carbon Emissions·Liveable City·Sustainable Development", and outlining the strategies and targets for combating climate change and achieving carbon neutrality.
- 2.4 As for carbon emissions from waste, the Government will step up efforts in mobilising the entire community to practise waste reduction, developing waste-to-energy facilities and supporting the circular economy in accordance with the Waste Blueprint. The Government have been developing a number of waste-to-energy facilities, including the Integrated Waste Management Facilities, Organic Resources Recovery Centres and food waste/sewage sludge co-digestion facilities. While some of these facilities have commenced operation and some are under construction, more waste infrastructure is required to provide adequate treatment capacity in long term. Among other waste infrastructures, the Government is now planning to develop the Integrated Waste Management Facilities Phase 2 (hereafter referred as “IWMF2”) and IWMF3.
- 2.5 The major components of the IWMF3 may include, but not limited to, the following:
- Waste reception, storage and feeding system;
 - Dedicated berthing facility;
 - Advanced incineration/thermal treatment facilities;
 - Waste heat recovery, turbine generator and cooling system;

¹ https://www.enb.gov.hk/sites/default/files/pdf/waste_blueprint_2035_eng.pdf

- Facilities for export of electricity;
- Flue gas treatment and discharge system;
- Air pollution and odour control system;
- Ash / residues storage, treatment and handling system;
- Process control and monitoring system;
- Wastewater treatment/reuse facilities;
- Administration building;
- Utilities provision;
- Access road and internal road;
- Landscaping works;
- Community facilities and
- Carbon capture, utilisation and storage systems.

3 Objectives of the Contract

3.1 The objectives of the Contract are to:

- (a) Review and project MSW arising and characteristics in Hong Kong;
- (b) Determine the treatment capacity of additional IWMF(s) and the technologies to be adopted for MSW treatment and pollution control;
- (c) Carry out territory-wide site search, identify potential sites for the additional IWMF(s) and recommend distribution of the facilities with sufficient capacity to handle the MSW arising based on the results from task (a);
- (d) Carry out preliminary feasibility studies and preliminary environmental assessment for the Project at the potential sites;
- (e) Identify and evaluate opportunities, risks, constraints and interfacing issues with other developments and local communities for the Project at the potential sites;
- (f) Determine arrangements for delivery of MSW to the potential sites and transportation of residues for off-site handling or disposal;
- (g) Prepare outline designs, cost estimates and implementation programme for the Project at the potential sites;
- (h) Provide inputs required for preparation of Project Definition Statement, Technical Feasibility Statement and Project Profile; and
- (i) Recommend further studies to be carried out in the next stage, and identify other issues to be resolved/tackled.

4 Description of the Services

- 4.1 The *services* comprise all work and input required for review, studies, surveys, impact assessments, planning submissions, preliminary design, to achieve the objectives stated in Clause 3.1, except otherwise stated in the Scope.
- 4.2 The *services* to be provided by the *Consultant* for this Agreement, as set out in Clause 6 of this Scope, are divided into the following Phases:
- (a) Phase I – Desktop Review and Site Search
 - (b) Phase II – Feasibility Studies and Outline Design
- 4.3 The *Consultant* submits the deliverables as described in Clause 5 of this Scope and completes the work as described in Clause 6 of this Scope to the satisfaction of the *Employer's Agent* and in accordance with an agreed programme.
- 4.4 The *Consultant* commences **Phase I – Desktop Review and Site Search** upon commencement of the *services*.
- 4.5 The *Consultant* commences **Phase II – Feasibility Studies and Outline Design** upon receiving written instructions from the *Employer's Agent* to do so.
- 4.6 The *Consultant* provides the professional services relating to the adoption of New Engineering Contract (NEC) at various Phases of the *services*.
- 4.7 The *services* cover the following major tasks in Phase I and Phase II:

Phase I – Desktop Review and Site Search

- (a) Review and project the composition, characteristics, distribution and quantities of MSW requiring disposal in Hong Kong and treatment by additional IWMFs (in addition to Integrated Waste Management Facilities Phase 1 and Phase 2);
- (b) Determine the treatment capacity of additional IWMFs and the required footprints;
- (c) Develop the approach and methodology in carrying out site search for the additional IWMFs;
- (d) Formulate site requirements, carry out site assessment and identify potential sites for the additional IWMFs;
- (e) Recommend the distribution of the additional IWMF(s) with sufficient capacity to handle the MSW arising based on the results in task (a), and based on the locations and operations of existing and planned refuse transfer stations.
- (f) Shortlist at least two potential sites for further studies of the Project in Phase II of the

services.

Phase II – Feasibility Studies and Outline Design

The *Consultant* carries out the following tasks for the development of the Project at the two or more potential sites shortlisted in Phase I (hereafter referred as the “Project sites”):

- (g) Review relevant previous studies and latest worldwide development of thermal technology for MSW treatment, and recommend the preferred technology and treatment capacity for the Project;
- (h) Review latest worldwide development of pollution control technology suitable for the MSW treatment technology as recommended in (g) above, and recommend the preferred pollution control technologies for the Project;
- (i) Identify the key elements, equipment and facilities that need to be included in the Project;
- (j) Conduct preliminary technical assessment, including but not limited to the aspects of geotechnical, water supply and utilities, traffic and transport, drainage, sewerage, sustainability, socio-economic, green initiatives and carbon appraisal;
- (k) Conduct preliminary environmental assessment, including but not limited to the aspects of air quality, odour, noise, water, waste management, land contamination, ecology, fisheries, landscape and visual, hazard to life and landfill gas hazard;
- (l) Carry out site survey of existing trees on the Project sites and identify any trees with high conservation or amenity value that deserve to be retained;
- (m) Assess whether there are heritage sites within the Project site boundary or in the vicinity of the Project sites; and consult the Antiquities and Monuments Office (AMO) on the necessity for conducting a Heritage Impact Assessment for the Project;
- (n) Propose preventive and mitigation measures to address the potential impacts identified from the above assessments;
- (o) Determine appropriate arrangements for delivery of MSW to the Project sites and transportation of residues/material for off-site handling or disposal;
- (p) Determine appropriate arrangements to re-use, treat and recycle the waste products and by-products to be generated from the recommended treatment technology adopted by the Project (waste products include the incinerator bottom ash (IBA), fly-ash and air pollution control residues (APCr)); and determine the suitable arrangements to dispose of the non-recycled waste products;
- (q) Identify and evaluate opportunities, risks and constraints; and interfacing issues with other projects, developments and local communities;

- (r) Evaluate land requirements and assess whether planning permission, amendment, application, resumption and/or clearance is required;
- (s) Explore opportunities to recover energy and resources at the Project sites, and explore opportunities for optimum utilization of energy by the Project and other users;
- (t) Explore opportunities of carbon capture, utilisation and storage at the Project sites;
- (u) Explore opportunities of incorporating community/educational/tourist facilities at the Project sites;
- (v) Develop preliminary/reference designs (including layout plans, process flow, architectural design) of IWMF3 at each of the Project sites, and determine the development option(s);
- (w) Determine the Project scope and identify the key functional, performance and special requirements of the Project;
- (x) Estimate the capital value of the Project and develop the implementation programme;
- (y) Provide inputs to the *Employer's Agent* to prepare for the Project Definition Statement and Technical Feasibility Statement;
- (z) Prepare for the Project Profile for the Application for the Environmental Impact Assessment (EIA) Study Brief; and
- (aa) Recommend further studies and/or assessment.

5 Deliverables

General

- 5.1 The *Consultant* prepares and submits, during the course of the *services*, reports, technical notes, working papers, documents and presentation materials as required by the *Employer's Agent* providing details on the methodology, progress, background studies, searches and results, findings and conclusions of analysis, investigations and inquiries carried out for the purpose of the *services*.
- 5.2 The *Consultant* is responsible for the circulation and timely delivery of sufficient hard copies and soft copies of the deliverables, technical notes, papers and/or reports directly to the concerned parties for comments before the submission deadlines in accordance with the approved programme of the *services*, unless otherwise agreed by the *Employer's Agent*. The circulation lists for each deliverable is agreed with the *Employer's Agent*. The deadline for submission and the maximum number of hard copies for major deliverables to the concerned parties are specified below, unless otherwise agreed by the *Employer's Agent*.

- 5.3 The *Consultant* prepares and submits the following documents (in digital and hard copies):
- (a) Monthly Progress Reports (**up to 5 copies each**) to be submitted to the *Employer's Agent* within the first 5 working days of each month, as referred to in Clause 8 of the Scope;
 - (b) Monthly Financial Reports (**up to 5 copies each**) to be submitted to the *Employer's Agent* within the first 5 working days of each month, as referred to in Clause 9 of the Scope;
 - (c) Meeting minutes/records (**2 copies each**) of every meeting convened or attended by the *Consultant* with other Government bureaux/departments/offices and non-Government parties on all matters relating to the *services*. The *Consultant* distributes the meeting minutes to the participants, and all related parties of the meetings and copies such minutes to the *Employer's Agent* within 7 working days after the meetings;
 - (d) All correspondence (**2 copies each**) the *Consultant* has had with Government bureaux/departments/offices and other non-Government parties in relation to the *services*. The correspondence submitted shall be properly filed, classified and indexed to enable easy reference, search and retrieval of information; and
 - (e) Supporting documents and other relevant materials to the *Employer's Agent* as may be required for presentation in relation to the findings and recommendations of the *services*.
- 5.4 Unless specified otherwise, the *Consultant* submits softcopies (with editable and image files in CD-ROMs or in a form agreed by the *Employer's Agent*) and up to 30 hard copies for each of the draft and approved final version of all notes, papers, reports and documents necessary for the satisfactory completion of the *services* including all deliverables described in this Scope.
- 5.5 The *Consultant* provides any other reports, papers, submissions, programmes, estimates, calculations, certificates, plans, drawings and any other documents in connection with the *services* and as required by the *Employer's Agent*.
- 5.6 The *Consultant* produces documents for the purpose of compliance with statutory procedures, government procedures and consultative procedures.
- 5.7 The *Consultant* submits certificate of Insurance Policy (1 certified true copy) as described in clause B12 of *additional conditions of contract* annually or upon any change of Insurer or terms of the Insurance Policy.
- 5.8 Unless specified otherwise and except **Monthly Progress Reports** and **Monthly Financial Reports**, all reports, papers and documents shall be submitted in draft form. A period of 2 weeks is allowed for circulation of the draft documents to the concerned authorities for comments. The *Consultant* provides responses within 1 week from receipt of comments. Unless specified otherwise, within 2 weeks from receipt of comments, the revised version

with the incorporation of comments where appropriate and written response to comments as appendix shall be issued by the *Consultant* and submitted to the *Employer's Agent*. The *Consultant* submits the final version of the documents to the *Employer's Agent* within 1 week of satisfactory resolution of the comments.

- 5.9 In addition to the hard copies of all draft, revised and approved submissions of reports, technical notes, working papers, plans, drawings, written responses and other written documents as may be required under the *services*, the *Consultant* provides the *Employer's Agent* with digital copy in both editable electronic format and PDF format for both text and image with latest version of software in the formats given in **Appendix A** or agreed by the *Employer's Agent*. The *Consultant* includes hard copies and digital copies delivered by CD-ROMs or other equivalent media as agreed by the *Employer's Agent* containing all necessary photographs, tables, figures and drawings, including cross-sections, to illustrate adequately the reasoning given in the text of the deliverable.
- 5.10 Upon completion of the *services*, the *Consultant* submits to the *Employer's Agent* 2 sets of discs kept in rigid plastic cases containing all digital copies of the deliverables mentioned in Clause 5 of this Scope including working papers, reports, supporting notes, sketches, plans, drawings, photographs, photomontages, charts, models, databases, software programmes and all digital storage media which are prepared or produced by the *Consultant* for the purpose of or in connection with or arising out of the *services*.
- 5.11 The *Consultant* ensures that all deliverables are properly checked prior to submission. All technical supporting documents including calculations shall be submitted separately to the *Employer's Agent* for information and record. The contents and format of all deliverables prepared by the *Consultant* shall be subject to the satisfaction of the *Employer's Agent*.
- 5.12 Unless otherwise specified by the *Employer's Agent*, the *Consultant* prepares the required reports and documents in accordance with the "Green Measures" as stated in **Appendix B**.
- 5.13 All documents including reports, technical notes, working papers, executive summaries, notes, sketches, plans, drawings, photographs, spreadsheets, charts designed for the *services* shall be returned to and shall become the property of the *Employer* with full copyright. Such information shall be returned within 4 weeks of the approval of the last deliverable as specified in the *services* to the *Employer's Agent*.
- 5.14 All computerised database and model developed for this Study will become the property of HKSAR Government on completion of the Study. The *Consultant* submits to the *Employer's Agent* upon completion of the *services*, maximum six sets of full documentation of the database and models completed in the *services*. Documents to be submitted include hard copies and electronic copies of full details of the models, computer programs (except for licensed program), input data in the form of source listings together with sets of computer disc(s)/tape(s), method/procedures of calibration, and final updated user manuals to enable the models to be updated or modified in future.
- 5.15 The *Consultant* draws the *Employer's* attention any deliverables that are under licence and

any pre-existing copyright or patent on any deliverables and any other restriction whatsoever affecting the *Employer's* use of the same and, if required by the *Employer's Agent*, to establish the existence of any licence, copyright, patent or restriction.

Major Deliverables

5.16 During the course of the *services*, in addition to those mentioned in the above clauses, the *Consultant* submits the following major deliverables to the *Employer's Agent*.

5.17 The *Consultant* submits up to 30 copies the following documents to the *Employer's Agent* for the *services* unless otherwise specified:

- (1) Inception Report
- (2) Working Paper on Treatment Capacity
- (3) Working Paper on Approach and Methodology for Site Search
- (4) Site Search Report
- (5) Working Paper on Waste Treatment and Pollution Control Technologies
- (6) Preliminary Technical Assessment Report
- (7) Preliminary Environmental Assessment Report
- (8) Preliminary Design Report
- (9) Draft Project Definition Statement and Technical Feasibility Statement
- (10) Draft Project Profile for Application for EIA Study Brief
- (11) Final Report

5.18 The *Consultant* prepares and submits the major deliverables in accordance with the requirements stated in the following table unless otherwise specified.

No.	Major Deliverables	Relevant clause(s) in the Scope	Key Dates for Submission counting from the <i>starting date</i> (unless specified otherwise)
1	Inception Report	6.2.1	2 weeks (draft) 4 weeks (final)
Phase I – Desktop Review and Site Search			
2	Working Paper on Treatment Capacity	6.3.1	1 months (draft) 2 months (final)
3	Working Paper on Approach and Methodology for Site Search	6.3.2 to 6.3.3	1 months (draft) 2 months (final)
4	Site Search Report	6.3.4 to 6.3.6	2 months (draft) 3 months (final)
Phase II – Feasibility Studies and Outline Design			

No.	Major Deliverables	Relevant clause(s) in the Scope	Key Dates for Submission counting from the <i>starting date</i> (unless specified otherwise)
5	Working Paper on Waste Treatment and Pollution Control Technologies	6.4.2 to 6.4.4	3 months (draft) 4 months (final)
6	Preliminary Technical Assessment Report	6.4.5	7 months (draft) 9 months (final)
7	Preliminary Environmental Assessment Report	6.4.6 to 6.4.7	7 months (draft) 9 months (final)
8	Preliminary Design Report	6.4.8 to 6.4.10	8 months (draft) 10 months (final)
9	Draft Project Definition Statement and Technical Feasibility Statement	6.4.11	8 months (draft) 9 months (final)
10	Draft Project Profile for Application for EIA Study Brief	6.4.12	10 months (draft) 12 months (final)
11	Final Report	6.4.13 to 6.4.16	10 months (draft) 12 months (final)

5.19 The deliverables required under clause 5 are prepared and submitted in draft form to the *Employer's Agent* for comments before issue and/or circulation. The *Consultant* makes arrangements for the *Employer's Agent* to inspect any deliverables during their preparation so as to ascertain the progress of their preparation.

5.20 Deliverables include all documents such as technical papers, reports and any supporting notes, sketches, plans, drawings, photographs, photomontages, charts, models, databases, software programmes, and all digital storage media which are prepared or produced by the *Consultant* or its sub-*Consultants* for the purpose of or in connection with or arising out of the *services*. Such documents and information shall be submitted to the *Employer's Agent* when so requested by him or within 2 weeks of the approval of the last deliverable under the *services*. Where directed by the *Employer's Agent* for the intention to facilitate consultation/engagement, the *Consultant* prepares for both the English and Chinese versions of the deliverables.

5.21 All working papers and reports are in A4 size and accompanying drawings should be in convenient sizes but not exceeding A3 size unless otherwise agreed by the *Employer's Agent*. As for other drawings, plans, sketches and other illustrations, hard copies shall be submitted normally in A1 size unless otherwise instructed by the *Employer's Agent*, together with their Electronic Document Files. All drawings shall be prepared in accordance with Environment, Transport and Works Bureau (ETWB) TC(W) No. 38/2002 and subsequent revisions, unless otherwise agreed by the *Employer's Agent*.

5.22 All reports, technical notes, working papers, manual, memorandum, written submissions and

documents shall be prepared in a reader-friendly manner to enable readers to easily understand the contents of documents. The *Consultant* is aware that readers may not necessarily have knowledge about the detailed background of the subject matter especially where document is to be circulated to different parties. Arguments, discussions, recommendations and/or conclusions on key issues shall be presented in a concise, logical and easily understandable manner in the main text of the documents without distracting readers' attention to supplementary details. Where appropriate, appendix shall be used to explain the background and/or present supporting information on the subject issues. Executive summary shall be used, where appropriate, to highlight the main contents of the documents. Key recommendations, conclusions and/or matters requiring decision, agreement, approval, follow-up action and/or special attention shall be clearly highlighted in the documents.

6 Services to be provided by the *Consultant*

6.1 General

- 6.1.1 The *Consultant* carries out the duties as set out in the *conditions of contract* and *additional conditions of contract* and as amplified, extended and stipulated in this Scope. The *services* as described in all sub-clauses of **Clauses 4 and 6** of this Scope, where applicable, apply to all phases of the *services*.
- 6.1.2 The *Consultant* provides personnel with appropriate qualifications and relevant experiences to manage all tasks and direct, control and undertake, where appropriate, the *services* detailed in all sub-clauses to **Clauses 4, 5 and 6** of this Scope.
- 6.1.3 The *Consultant* gives due consideration to all planning, environmental, engineering, economic, transport, drainage impact, land, utilities, safety, security, legal, social, operational, contractual and financial implications of their proposals and recommendations.
- 6.1.4 The *Consultant* complies with all reasonable instructions from the *Employer's Agent* and with all relevant circulars and documents issued by the HKSAR Government and as directed by the *Employer's Agent*, including but not limited to, the following:
 - (a) Engineering & Associated Consultants Selection Board (EACSB) Handbook and other relevant EACSB circulars and circular memoranda;
 - (b) General/Technical circulars and other relevant circular memoranda issued by the Development Bureau;
 - (c) Policy documents issued by the Environment Bureau and the Development Bureau; and
 - (d) Technical publications/guidelines issued by the Government departments.

Unless otherwise specified, the technical circulars and documents quoted in this Scope include their latest revision or replacement.

- 6.1.5 For the purposes of completing the *services*, the *Consultant* takes cognizance of the need to comply with and observe relevant Ordinances, by-laws, regulations and rules for the time being in force in Hong Kong. The *Consultant* informs *Employer's Agent* as early as possible of the need to take action under any Ordinances and the *Employer's Agent* will, upon receipt of the necessary information, arrange for the necessary action to be taken.
- 6.1.6 The *Consultant* either consults or liaises closely with all relevant parties for the purpose of the Project including but not limited to:
- (a) Agriculture Fisheries and Conservation Department (AFCD);
 - (b) Antiquities and Monuments Office (AMO);
 - (c) Architectural Services Department (ArchSD);
 - (d) Civil Aviation Department (CAD);
 - (e) Commerce and Economic Development Bureau (CEDB);
 - (f) Civil Engineering Office of CEDD;
 - (g) Customs and Excise Department (C&ED);
 - (h) Development Bureau (DEVB);
 - (i) District Lands Offices (DLO);
 - (j) District Offices (DO);
 - (k) Drainage Services Department (DSD);
 - (l) Electrical and Mechanical Services Department (EMSD);
 - (m) Environment Bureau (ENB);
 - (n) Environmental Protection Department (EPD);
 - (o) Fire Services Department (FSD);
 - (p) Food and Environmental Hygiene Department (FEHD);
 - (q) Geotechnical Engineering Office (GEO) of CEDD;
 - (r) Hong Kong Police Force (HKPF);
 - (s) Hong Kong Airport Authority (HKAA);
 - (t) Lands Department (LandsD);
 - (u) Marine Department (MD);
 - (v) Planning Department (PlanD);
 - (w) Security Bureau (SB);
 - (x) Technical Services Division (TS) of CEDD;
 - (y) Transport Department (TD);
 - (z) Transport and Housing Bureau (THB);
 - (aa) Water Supplies Department (WSD);
 - (bb) Public utilities companies; and
 - (cc) Other Government Departments and agencies as necessary.
- 6.1.7 The *Consultant* gathers all necessary information and data from the other Consultants and parties for the purpose of undertaking the *services* and satisfies themselves that the information and data so collected are adequate and appropriate for use in the *services*. The *Consultant* consults, liaises and coordinates with Government bureaux/departments/offices, Consultants of relevant studies and any parties/stakeholders concerned, attends meetings to present their work and to answer questions, on matters relating to the *services*.
- 6.1.8 The *Consultant* takes cognizance of relevant documents, reports, drawings and other

background materials of the various studies, whether completed or being carried out, relevant to the *services* and/or any other studies that have a bearing on the *services*. The *Consultant* identifies and resolve any potential or actual conflicts that may arise when they carry out the *services*.

- 6.1.9 The *Consultant* takes cognizance of any policies promulgated, rules and regulations being in force, and requirements and procedures prevailing in HKSAR for carrying out the *services*.
- 6.1.10 The *Consultant* agrees that the management and reporting of the *Consultant's* Performance under this Agreement is subject to the reporting and management mechanism set out in Development Bureau Technical Circular (Works) Nos. 3/2016 and 5/2018.
- 6.1.11 Except to the extent otherwise provided for in this Agreement, the *Consultant* is responsible for the cost of all computing facilities required by them for fulfilling the obligations under this Agreement. These computer facilities are included but not limited to, the following:
- (a) office automation facilities commonly used by secretarial, clerical, administrative, technical or professional staff for the office functions;
 - (b) technical computing facilities used by professional and technical staff for computer-aided drafting, computer-aided design and geographical information systems, or other professional systems (such as, but not limited to, Electronic Document Management System, Building Information Modelling, Project Management System) as the case may be; and
 - (c) information technology training for staff employed by the *Consultant*.
- 6.1.12 The *Consultant* reports to the *Employer's Agent* or his delegate on the day-to-day administration of the *services*. The *Consultant* arranges and conducts progress meetings at monthly or any other reasonable intervals agreed by the *Employer's Agent* on all aspects of the *services*. The Project Director of the *Consultants* chairs the monthly progress meetings.
- 6.1.13 The *Consultant* communicates, liaises and co-ordinates as well as responds to queries/comments from all relevant Government bureaux/departments/offices and agencies, statutory and advisory organizations, utility undertakings, public transport companies, consultants, contractors, interested parties, bodies, persons, etc. on matters related to the *services*, and copy any correspondence to the *Employer's Agent*. The *Consultant* responds to such queries/comments raised within 2 weeks, or a period agreed by the *Employer's Agent*, upon receiving such queries/comments. Such date shall be confirmed in writing to the *Consultant* by the *Employer's Agent*. Where views, comments, agreements and approvals, as the case may be, are being sought, sufficient time (normally 2 weeks minimum) should be allowed for the addressees to respond.
- 6.1.14 The *Consultant* liaises with and provides assistance to other Government's Consultants, in particular those engaged in other related studies, as directed by the *Employer's Agent* during the course of the *services*.

6.1.15 During the course of the *services*, the *Consultant* submits site boundary files in DXF format, or any other format as requested by the *Employer's Agent*, showing the shape and corresponding location of site boundary for uploading to the Public Works Projects Location Plan Register (PWPLPR). The *Consultant* follows the guideline provided by the *Employer's Agent* and updates the site boundary files on quarterly basis or upon request.

6.1.16 The *Consultant* gives assistance to authorised public officers for the purpose of audit inspection to inspect such records, measurement books, accounts and other information whatsoever and answers queries or supplies information reasonably requested by such officers in pursuance of such audit inspection.

6.2 Inception Report

6.2.1 The *Consultant* prepares and submits an Inception Report to address the following:

- (a) Understanding and appreciation of the objectives, key issues and constraints of the *services*;
- (b) Approach, strategy and procedures to meet the requirements of the *services*, with detailed task analysis and issues envisaged in undertaking various tasks and relationship amongst various tasks;
- (c) Programme of implementation of the *services*;
- (d) Expenditure forecast of the *services*;
- (e) A deliverable distribution matrix, to ensure that the deliverables are effectively disseminated to relevant parties; and
- (f) Details of the *Consultant's* organization and staffing to carry out the *services*, and the respective responsibilities and curricula vitae of the *key people* and key staff.

6.3 Phase I – Desktop Review and Site Search

Working Paper on Treatment Capacity

6.3.1 The *Consultant* reviews and projects the composition, characteristics, distribution and quantities of MSW requiring disposal in Hong Kong and requiring treatment by additional IWMFs (in addition to Integrated Waste Management Facilities Phase 1 and Phase 2). The *Consultant* estimates the treatment capacity of additional IWMFs for the agreement of the *Employer*, estimates the required footprints and presents the above findings in the **Working Paper on Treatment Capacity**. In estimating the treatment capacity of these IWMFs, the *Consultant* takes into account, including but not limited to the following:

- (a) Waste Blueprint for Hong Kong 2035;
- (b) Implementation of waste reduction/recycling initiatives, infrastructures and policies

(including MSW Charging);

- (c) Latest development of the Integrated Waste Management Facilities Phase 1 and Phase 2;
- (d) Prevailing TPEDM and economic growth;
- (e) New developments including the Northern Metropolis and the Artificial Islands in the Central Waters; and
- (f) Combustible portion of non-recyclable waste.

Working Paper on Approach and Methodology for Site Search

6.3.2 The *Consultant* presents in the Working Paper, including but not limited to the following:

- (a) Develop the approach and methodology in carrying out site search and identifying potential sites for the additional IWMFs;
- (b) Formulate site requirements, evaluation criteria, weighting and scoring system to provide rational means of comparing and assessing potential sites in terms of overall suitability with due considerations of usable area, site availability, land use, traffic and transportation, environmental benefits and disbenefits, technical feasibility, construction cost and time, social and other relevant aspects;
- (c) Subject to the assessment methodology, sensitivity analysis on the weighting and scoring system shall be conducted.

6.3.3 The *Consultant* proposes the assessment methodology and evaluation criteria for agreement by the *Employer's Agent* before conducting the site assessment and comparison.

Site Search Report

6.3.4 The *Consultant* conducts territory-wide site search for the additional IWMFs. Consideration is given to the following including but not limited to:

- (a) the sites should be able to accommodate all the facilities and items required for the construction and operation of IWMFs, including but not limited to all duty and standby equipment, waste reception/incineration/recycling/transportation facilities, contingency storage, residues separation system, ancillary buildings, berth(s), possible community facilities and education centres;
- (b) the facilities have sufficient treatment capacity and standby units to handle the MSW arising based on the results of the Working Paper on Treatment Capacity;
- (c) the sites should be suitable for the development of IWMFs with due considerations of usable area, site availability and reclamation need, land use, potential of expansion,

traffic and transportation (for delivery of machines/equipment during construction and for delivery of MSW and residues to/from the IWMMFs during operation), locations and operation of existing/planned refuse transfer stations, environmental benefits and disbenefits, sustainability, technical feasibility, cost effectiveness, development time, social and other relevant aspects;

- (d) feasibility of increasing the site area by reclamation in nearby waters to achieve the required footprint;
- (e) feasibility of accommodating one mega facility of IWMMF at the potential site or two facilities at the potential sites to achieve the total treatment capacity as determined in **Working Paper on Treatment Capacity**; and
- (f) consideration on co-location of the IWMMF(s) with other existing and planned facilities.

6.3.5 The *Consultant* carries out the following tasks in the site search exercise:

- (a) Critically review the previous and current relevant works, studies and reports carried out by on-going and previous consultants, EPD, PlanD, CEDD and other Government departments;
- (b) **Evaluate and compare at least five potential sites** identified for the additional IWMMFs in accordance to the findings and methodology established in the Working Papers mentioned in Clauses 6.3.1 and 6.3.2 of the Scope; and identify key issues for further review in Phase II of the *services* and/or for further study;
- (c) **Shortlist and recommend at least two potential sites** for IWMMF3 (i.e. the Project sites) for further study in Phase II of the *services* based on the methodology and criteria agreed by the *Employer's Agent*, and provide details of these sites (including site characteristics, potential and constraints of development, and other relevant considerations); and
- (d) Conduct sensitivity analysis, if applicable.

6.3.6 The *Consultant* presents the findings of the above tasks under Clause 6.3.4 – 6.3.5 and any other important matters so identified in the **Site Search Report**.

6.3.7 The *Consultant* does not proceed to carry out duties as stipulated in Clause 6.4 unless and until they have received the written instruction from the *Employer's Agent*.

6.4 Phase II – Feasibility Studies and Outline Design

6.4.1 Upon agreement from the *Employer's Agent*, the *Consultant* makes reference to the findings under Clause 6.3 and other relevant studies to recommend at least **two Project sites** for further assessment and carries out tasks stipulated under Clause 6.4 for each of the Project sites to conclude the overall technical feasibility and environmental acceptability of

developing IWMF3 at the two Project sites.

Working Paper on Waste Treatment and Pollution Control Technologies

- 6.4.2 The *Consultant* collates and reviews the latest international practices of waste-to-energy technologies, thermal treatment technologies, sorting/recycling technologies, advanced air pollution control technologies associated with thermal waste treatment (including but not limited to de-NO_x technology/system), the prevailing trends and experiences in MSW management practices and associated pollution control, and relevant previous studies.
- 6.4.3 The *Consultant* recommends the preferred waste treatment and pollution control technologies to be adopted for the Project, taking into account the characteristics of the Project sites (e.g. locations of sensitive receivers), characteristics of waste, characteristics of pollutants, waste collection/treatment/recycling practices in Hong Kong, emission standards, MSW Charging policy and relevant policy/regulations, functional requirements, operational and environmental performance, efficiency and reliability of the preferred technologies.
- 6.4.4 The *Consultant* presents the findings of the above tasks under Clause 6.4.2 – 6.4.3 and any other important matters so identified in the **Working Paper on Waste Treatment and Pollution Control Technologies**.

Preliminary Technical Assessment Report

- 6.4.5 The *Consultant* evaluates the preliminary technical feasibility for the implementation of the Project at **each of the two Project sites** as described under all sub-clauses of Clause 6.4.5 and present the findings and any other important matters so identified in the **Preliminary Technical Assessment Report**.

a) Preliminary Site Assessment

- i) collate and review all available geotechnical information, records, assessments and geotechnical investigation proposals of relevant previous studies necessary for the implementation of the Project;
- ii) determine the land and/or reclamation requirements for the implementation of the Project;
- iii) evaluate site characteristics (including usable area, location, topography, present zoning and land use, accessibility, etc.), geotechnical conditions, constraints and issues associated with the development of IWMF3 at each of the Project sites and any major constraints, uncertainties and/or risks involved;
- iv) evaluate whether planning permission or amendment to the existing zoning is required;
- v) determine the site boundary and propose suitable configurations for site

formation/reclamation at each of the two Project sites;

- vi) evaluate development options and propose practical and cost-effective methods for site formation/reclamation;
- vii) assess the critical issues and works for site formation and construction of IWMF3, and propose measures for mitigation;
- viii) identify all existing geotechnical features within and in the vicinity of the Project sites and recommend the scope of necessary slope works to be carried out in future studies; and
- ix) recommend required investigations, surveys, studies, mitigation measures and additional work to be carried out in future studies.

b) Technical Feasibility and Engineering Impact Assessment

The *Consultant* carries out a broad technical assessment to determine the technical feasibility of constructing and operating the IWMF3 at the Project sites, and to identify constraints and potential engineering impacts arising from the construction and operation of IWMF3 at each of the Project sites. The *Consultant* acquires and/or procures necessary information, plans and drawings from relevant Government departments and utilities companies for carrying out the *services*. The *Consultant* observes and follows relevant guidelines, circulars and practice notes. The assessment covers and addresses the following:

- i) **Overall development requirements and feasibility** – development requirements and technical feasibility for the construction and operation of IWMF3, covering the aspects of including but not limited to planning, land use, site formation, reclamation (if necessary), infrastructure, operational/environmental/safety performance, maintenance, delivery of machine/equipment, waste delivery and material transportation;
- ii) **Height restrictions** - requirements on Airport Height Restriction under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301), height restrictions imposed on Outline Zoning Plan or other land documents (e.g. Deed of Restrictive Covenant);
- iii) **Traffic** - implications on land and marine traffic/transportation, taking into account the waste delivery pattern at the time of operation of IWMF3, transportation and operation of existing and planned refuse transfer stations, other existing and potential users of the access road and other proposed road networks; and recommend improvement measures (e.g. additional road and/or marine facilities).
- iv) **Drainage** - potential impact on existing or planned drainage system(s) within or in vicinity of the Project sites, and recommend mitigation measures;

- v) **Sewerage** - potential impact on existing and planned sewerage, wastewater infrastructures and sludge disposal system(s) within or in vicinity of the Project sites, and recommend mitigation measures;
- vi) **Utilities** - Potential impact on existing or planned utilities (including but not limited to water supply, electricity supply, gas supply and telephone service systems) within or in vicinity of the Project sites, and recommend mitigation measures;
- vii) **Heritage** - identify any heritage site(s) (i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office (AMO)) within the potential site boundary or in the vicinity of the Project sites, and consult the AMO on the necessity for conducting a Heritage Impact Assessment for the Project.
- viii) **Tree preservation** - carry out site survey of existing trees to be affected by the Project, identify any trees with high conservation or amenity value for preservation (in particular the trees already included or potentially registrable in the “Register of Old and Valuable Trees” under ETWB TCW No. 5/2020 “Registration and Preservation of Old and Valuable Trees”), and recommend further assessment;
- ix) **Waste management** – evaluate the feasibility to reuse/recycle the waste products from the Project (including but not limited to, bottom ash, fly ash and air pollution control residues) and propose measures to manage and treat waste/residues generated during construction and operation;
- x) **Opportunities** - assess the opportunities to co-locate IWMF3 with other waste facilities, sewage treatment facilities and power plants; and assess the opportunities to incorporate green leisure, recreational, educational and tourist facilities into the Project;
- xi) **Interface issues** – identify potential interface issues (including the interface with other on-going and planned projects, development interface between Hong Kong and the Mainland); and
- xii) **Other implications** – identify and address key issues, restrictions, constraints and risks relating to the Project (in particular those issues affecting cost and programme), potential stakeholders and/or parties to be affected by the Project, and other implications that the *Consultant* identifies.

c) Preliminary Sustainability Impact Assessment

The *Consultant* carries out the Preliminary Sustainability Impact Assessment based on the best suitable assessment approach, covering relevant social, economic, and environmental indicators to assess the sustainability implications of the respective aspects of the Project. The Sustainability Assessment shall be conducted using the

latest version of Computer-aided Sustainability Evaluation Tool (CASET) as the evaluation framework. The Sustainability Assessment satisfies the requirements of the “Guidelines on Sustainability Assessment” and subsequently supplementary guideline(s) issued by the Sustainable Development Division of the Environment Bureau. The Sustainability Assessment findings reveals both the positive and negative implications of the Project thereby presenting a more balanced picture to stakeholder groups and facilitate more informed public consultation.

d) Energy Conservation/Export and Carbon Neutrality

- i) evaluate the implications to power generation potential, utilization and export of surplus energy to electricity/gas providers and potential users;
- ii) evaluate the implications to achieving carbon neutrality; and determine the opportunity for implementation of carbon capture, utilisation and/or storage at the Project sites;
- iii) propose energy efficient features and/or renewable energy technologies for the Project and include the cost in the Project cost estimates in accordance with DEVB TC No. 2/2015 and ENB CM No. 3/2015 “Green Government Buildings” and other latest and relevant circulars and guidelines.

Preliminary Environmental Assessment (PEA) Report

6.4.6 The *Consultant* conducts a Preliminary Environmental Assessment (PEA) which aims at identifying the nature and extent of the environmental impacts arising from the development of IW MF3 at each of the Project sites. The *Consultant* presents the findings of the tasks under Clause 6.4.7 and any other important matters so identified in the Preliminary Environmental Assessment Report.

6.4.7 The *Consultant* carries out, but not limited to, the following tasks for each of the Project sites:

- (a) Review existing information and describe the baseline conditions of the Project sites, identify sensitive receivers and evaluate the broad environmental performance and determine the potential environmental issues arising from the construction and operation of IW MF3 taking into account of latest environmental policies, relevant statutory environmental standards and guidelines, e.g. the Technical Memorandum of the Environmental Impact Assessment Ordinance, Hong Kong Planning Standards and Guidelines, technical circulars, practice notes, etc.;
- (b) Address the identified issues including air quality and odour, ecology (terrestrial and aquatic), fisheries, landscape and visual, noise, waste management, water quality, land contamination, hazard to life, landfill gas hazard, etc. in broad sense. The environmental performance of the IW MF3 itself and the cumulative impacts due to other existing and planned facilities shall be covered;

- (c) Evaluate the operational air quality impacts and establish a preliminary air quality model and assess the potential cumulative air quality impact of the Project within the assessment area for each of the Project sites (minimum 10 kilometre from the site boundaries);
- (d) Propose necessary measures with a view to preventing and/or mitigating the potential environmental impacts/problems and assess the residual impact(s)/problem(s) after implementation of such measures;
- (e) Integrate the consideration of environmental factors with other considerations in formulating the development options and provide environmental input into the options refinement and selection process;
- (f) Identify whether the Project or any relevant part(s) would be classified as designated project(s) under EIAO; and
- (g) Identify the need and defines the requirements for conducting necessary further studies and/or surveys to collect required data to fill the information gap.

Preliminary Design Report

6.4.8 The *Consultant* develops a preliminary design for development of IWMF3 at each of the Project sites based on the findings from the above tasks and available information, which include sufficient details to demonstrate engineering feasibility and environmental acceptability of the Project including, but not limited to the following:

- (a) Develop a preliminary design for the Project, taking into account of treatment capability and efficiency, delivery pattern of MSW from the relevant existing/planned refuse transfer stations, cost effectiveness, life-cycle cost, technical feasibility, recent advancement in waste treatment technology, procurement/application/use of patented processes, constraints, interface with other projects, plant maintenance, treatment standards, land requirement, environmental impacts, odour nuisance to the surroundings, energy efficiency, adoption of renewable energy facilities, synergy and impact to operation of existing waste facilities, ease of future operation and maintenance, reviews of various investigations/services relevant to the Project, and other relevant factors;
- (b) Recommend major components (including but not limited to the major components as described in Clause 2.5), key elements, equipment and facilities of the IWMF3, including any related ancillary facilities, utilities provision, berthing facilities, green measures and community facilities;
- (c) Outline any processes involved, including process flow diagrams, site plans, storage requirements, and standards of emission and discharge (including air emission and effluent discharge);

- (d) Develop the key design parameters and functional requirements (including but not limited to the design treatment capacity, maximum design throughout, number and size of thermal treatment units);
- (e) Illustrate the preliminary configuration, layout and architectural design of the facilities of the IWMF3;
- (f) Determine site boundary, extent of reclamation (where necessary) and land requirement plan;
- (g) Recommend the MSW transportation arrangement, and determine any access requirements (including road and marine access, berths) for delivery of waste, products, residues and ash from the Project sites to other facilities for handling or disposal;

6.4.9 The *Consultant* prepares good quality presentation materials including coloured Master Layout Plan and 3-dimensional images or drawings on artist impressions showing the architectural design of IWMF3.

6.4.10 The *Consultant* presents the findings of the tasks under Clause 6.4.8 and 6.4.9 and any other important matters so identified in the **Preliminary Design Report**.

Draft Project Definition Statement and Technical Feasibility Statement

6.4.11 The *Consultant* provides necessary information and assists the *Employer's Agent* to prepare submissions for obtaining funds and authorities for proceeding with the subsequent stages of the development of IWMF3. The *Consultant* prepares and submits the required documents to facilitate the *Employer's Agent* to prepare the Project Definition Statement (PDS) and Technical Feasibility Statement (TFS) in accordance with Financial Circular No. 4/2017, or its latest revision or replacement. The draft PDS and TFS are to be circulated to relevant bureau or departments for comments. The *Consultant* takes note that further circulation of the draft PDS and TFS may be necessary between the first draft and the final version. It is the intention to have all the required PDS and TFS completed in time for inclusion in the Resource Allocation Exercises and the *Consultant* programmes in such a way to suit.

Draft Project Profile for Application for EIA Study Brief

6.4.12 The *Consultant* provides all the necessary information, prepare and submit a Project Profile for the development of IWMF3 at each of the Project sites as set out in the Technical Memorandum on Environmental Impact Assessment Process (under the Environmental Impact Assessment Ordinance (EIA Ordinance) S16). The *Consultant* also advises and assists the *Employer* to apply for the EIA study brief in accordance with the EIA Ordinance.

Final Report

6.4.13 The Final Report shall be a fully comprehensive and detailed report of the findings, assessments, evaluations and recommendations under all the tasks of the *services*. The

report includes executive summary and covers descriptions of the objectives/requirements of the *services*, assumptions and input data, sources of references, options explored, methodology used, key parameters/factors/constraints, design features, recommendations for the Project (including the recommendations based on the findings of the *services*) and further studies required.

6.4.14 The *Consultant* estimates the capital cost and the operation cost for budgetary purpose in the Final Report. The cost estimates include, but not limited to:

- (a) capital cost estimated based on preliminary design (including but not limited to the estimate of labour and material associated with further studies, site investigation, design and construction of reclamation (if applicable), site formation, civil and structural works, electrical and mechanical installations, building services, architectural and landscape, all statutory submissions, employment of resident site staff, and environmental and safety measures, etc.);
- (b) expected values of risk associated with the Project in accordance with Appendix 4.15 to Chapter 4 of Project Administration Handbook for Civil Engineering Works published by the Government in assessing the contingency to the capital cost;
- (c) cost of energy efficient features, renewable energy technologies, carbon capture/storage facilities, and
- (d) annual operation and maintenance costs.

6.4.15 The *Consultant* devises an implementation programme for the development of IWMF3 at each of the Project sites, with a view to commencing operation by early or mid 2030s. The programme includes, but not limited to, the timing required for land acquisition, statutory and consultative procedures, planning, design, construction and commissioning, and others as necessary and appropriate. The *Consultant* identifies potential factors likely to affect the programme and indicate the critical path of the activities in the programme.

6.4.16 The *Consultant* submits Final Report together with the *Consultant's* Responses to Comments on the draft Final Report. The Final Report shall fully satisfy the requirements of the *services* and shall contain all materials and information stipulated in Clause 6 of this Scope.

7 Programme of Implementation

- 7.1 The *services* is expected to be completed within **12 months**. The *key dates* and *conditions* are set out below:

Event/Activity	Key Dates (counting from the <i>starting date</i>)
Phase I – Desktop Review and Site Search	2 months
Phase II – Feasibility Studies and Outline Design	12 months

- 7.2 The *Consultant* submits for the acceptance of the *Employer's Agent* the draft programme and revised programme within the period stated in Contract Data Part one and complies with all requirements of the contract relating to programme. The programme tallies with the activities shown in the *activity schedule*.
- 7.3 The draft programme and revised draft programme detail the activities to be carried out, target dates for particular tasks and any decision dates that may be required for the uninterrupted progress of the *services*. The *Consultant* discusses with the *Employer's Agent* during the above periods to agree the timing of submission of reports, other documents and plans for each of the main elements of the *services*, for inclusion in the draft programme and revised draft programme. Where any required information is not available by the specified date, the *Employer's Agent* directs the *Consultant* as to the appropriate assumption(s) to be made in the light of the information available at the time. The *key dates* will be revised and agreed by the *Employer's Agent* if necessary.
- 7.4 The *Consultant* makes endeavor to ensure that the *services* is carried out in accordance with the programme and submits regular programme review as part of the progress reports referred to in Clause 8 of this Scope.

8 Progress Reports

- 8.1 The *Consultant* submits monthly progress reports to the *Employer's Agent* within the first 5 working days of each month on all aspects of the *services* related to progress. The reports include a list of those parts of the *services* the execution of which is behind the Programme together with proposals to expedite progress, so as to complete the work on time. The reports also include updated expenditure forecasts in accordance with Clause 9 of this Scope.

9 Financial Management

- 9.1 The *Consultant* submits the invoices assessing the amount due together with financial reports in respect of the *services* to the Employer for acceptance at intervals not longer than the *assessment interval*.
- 9.2 At monthly intervals or at such other intervals as the *Employer's Agent* may require, the *Consultant* submits Monthly Financial Reports on the current and forecast expenditure on the *services* and the fees due to the *Consultant*, in a form to be agreed by the *Employer's Agent*. In addition, where necessary the *Employer's Agent* may from time to time require the *Consultant* to submit a report on the current and the forecast expenditure on the *services* and the fees due to the *Consultant*.

10 Standards and Specifications

- 10.1 The *Consultant* adopts such technical and design standards and specifications as are in current use by HKSAR Government departments or, if non-existent, British Standard Codes of Practice and Specifications, or the relevant international standards or equivalent. Should instances arise for which suitable standards or specifications do not exist or for which the current standards or specifications appear to require modification or if by the adoption of current standards the *Consultant* would incur additional expenses not within reasonable contemplation, the *Consultant* submits recommendations on appropriate alternatives to the *Employer's Agent* for agreement.
- 10.2 The *Consultant* complies with and observe all Ordinances, by-laws, regulations and rules for the time being in force in HKSAR.

11 Not Used

12 Not Used

13 Not Used

14 Not Used

15 Control of the Services

- 15.1 During the course of the *services*, the *Consultant* reports directly to the *Employer's Agent* and all deliverables are submitted to him for his approval.
- 15.2 Progress meetings are held at monthly intervals or at such other intervals as required by the *Employer's Agent*. The *Consultant* summarizes the findings, proposals/recommendations, comments received, responses, agreements and conclusions as applicable of the meetings

for comments by the *Employer's Agent*.

- 15.3 A Steering Group chaired by the *Employer's Agent* or his delegate will be formed to facilitate a close liaison between the *Consultant* and various Government departments having extensive inter-related or conflicting interests. The Steering Group will comprise staff of EPD, the *Consultant* and representatives of interested departments (and utilities companies where appropriate). The total number of the Project Steering Group meetings is limited to 6.
- 15.4 In addition to their duties under B2 of the *additional conditions of contract*, the Project Director and other appropriate staff of the *Consultant* are expected to attend, serve or report to meetings of Steering Group and other relevant meetings as necessary during the *services* period. Relevant formal decisions and minutes of these meetings will be advised to the *Consultant* by the *Employer's Agent*.
- 15.5 The *Consultant* attends up to 5 external meetings in connection with the *services* to explain the findings and recommendations of the *services* on request of the *Employer's Agent*. These external meetings may include meetings with Legislative Council, the Advisory Council on the Environment and its subcommittee, the district councils, community, committees as well as other ad-hoc meetings, etc. Attendance at further external meetings may be required and shall be paid for as additional services.
- 15.6 All progress meetings, technical meetings and liaison meetings with relevant Government bureaux/departments/offices, agencies, utilities companies and the Project Steering Group meetings are not considered as part of external meetings. The *Consultant* allows fees for all these meetings and the external meetings in the fee proposal.

16 Information and Facilities Provided by the *Employer*

- 16.1 All available information relevant to the *services* will be provided to the *Consultant*. Relevant documents, reports, drawings and other background materials are listed in **Appendix C** to this Scope. The *Consultant* indicates for guidance those documents which they currently hold and those of which a copy may be needed, should the *services* be awarded to them. A copy of each of the documents indicated will be arranged on loan from the *Employer's Agent*, if available, on request from the *Consultant* except those currently available from the Publications Sales Section of the Information Services Department. In the case of plans and drawings, two prints of each plan or drawing shall be provided free of charge if requested by the *Consultant*.
- 16.2 No information collated by, or transferred to the *Consultant* for the purposes of the *services* shall be released to any third party without the prior approval of the *Employer's Agent*. The *Consultant* returns all planning data, which has been obtained from Government departments in connection with the *services*, to the *Employer's Agent* after completion of the *services*.

17 Consultant's Office and Staffing

- 17.1 The *Consultant* maintains for the duration of this Agreement an office within the Hong Kong Special Administrative Region under the control of the Project Director, who is responsible for the overall supervision of the provision of the *services* with adequate authority and sufficient professional, technical and administrative support staff in all relevant disciplines to ensure progress to the satisfaction of the *Employer's Agent*.
- 17.2 The *Consultant* provides the staff and manpower input in accordance with the Technical Proposal which is submitted with the *Consultant's* tender for the *services*. The *Consultant* provides and updates necessary information as stated in Clause 17.6 regularly as required by the *Employer*. The *Consultant* provides time-log record of the staff deployed for the provision of the *services* and any other record relating to the staffing arrangement of the *Consultant* to the *Employer's Agent* upon request, for the purpose of ensuring compliance with the Technical Proposal.
- 17.3 If the *Employer's Agent* considers that the performance of the *Consultant* is not satisfactory due to inadequate staffing and manpower input allocated to the *services*, the *Consultant*, upon the request of the *Employer's Agent*, forthwith submits to the *Employer's Agent* the time-log record of the staff deployed for the *services* for the *Employer's Agent* to check against the Technical Proposal.
- 17.4 The *Consultant's* failure to adhere to the staffing proposal in the Technical Proposal, in particular the employment of the *key people*, key staff and sub-consultants, thus causing an adverse impact on the performance of the *services*, will be reflected in the *Employer's* performance report on the *Consultant*.
- 17.5 If the *Consultant* is unable to maintain any of the *key people* and key staff, the *Consultant* as soon as possible reports this to the *Employer's Agent* and submits the name, qualifications and experience of a proposed replacement staff to the *Employer's Agent* for acceptance. The proposed replacement staff shall be equivalent to or better than the outgoing staff, in terms of qualifications, experience and competence.
- 17.6 The *Consultant* follows the relevant requirements stipulated in Development Bureau Technical Circular (Works) No. 5/2018 and submit to the *Employer's Agent* quarterly updates on the manpower input deployed and/or to be deployed by the *Consultant* under the *services* for checking and monitoring with the use of Public Works Consultants Resources Allocation Register (PWCRAR) in accordance with the relevant mechanism mentioned in the same technical circular. The *Consultant* provides clarifications on the manpower input to the *Employer's Agent* upon request.
- 17.7 The *Consultant* agrees that the quarterly updates as mentioned in Clause 17.6 would be inputted into the PWCRAR for purposes as mentioned in the personal information collection statement to be sent to the *Consultant* with the templates for the quarterly updates, which include but not limited to the following:

- (a) activities relating to the management of the status of the *Consultant* under the List of

Consultants (the List) under the purview of the EACSB of the Government, including any regulating actions against the *Consultant* such as downgrading, suspension or removal from the List;

- (b) activities relating to the award of consultancies including but not limited to the assessment of the *Consultant's* tenders for consultancies;
- (c) activities relating to management of consultancies including but not limited to the monitoring of manpower resources provided and the assessment of *Consultant's* performance; and
- (d) compilation of statistical report and diagnosis of problems with or concerning PWCRAR or the management of *Consultant* to help the Government to improve.

18 Specialist and Sub-consultant services

- 18.1 The *Consultant* provides all specialist and sub-consultant services required for the satisfactory completion of the *services*. No additional fees or expenses for provision of such services rendered locally or overseas shall be payable by the *Employer* except as otherwise provided for in the *activity schedule*.
- 18.2 The *Consultant*, upon the award of this Agreement and save as otherwise agreed by the *Employer*, submits to the *Employer* for acceptance the sub-consultant proposed in their Technical Proposal for the *services*. The *Employer's Agent* has the right to check the sub-consultancy agreement(s). If the *Employer's Agent* considers that the performance of the *Consultant* is not satisfactory due to inadequate staffing and manpower input allocated to the *services*, the *Consultant*, upon the request of the *Employer's Agent*, forthwith submits to the *Employer's Agent* a certified copy of any or all of the sub-consultancy agreement(s).

19 Surveys

- 19.1 Two prints of topographical mapping at 1:1000, 1:5000 and 1:20000 scales prepared by the Survey and Mapping Office of the Lands Department, where available for the area covered by the Project for which the *services* forms a part, can be obtained free of charge on application to the *Employer's Agent*.
- 19.2 The *Consultant* may apply for the supply of the series of Digital Map products from Lands Department for the exclusive use of the *services* free of charge. Applications should be made to the *Employer's Agent* by completing and submitting the form "Undertakings by Consultant/Contractor on the Use of Digital Map from Land Information Centre" (SMF-0096) together with a list of the Digital Map products required. The *Consultant* is required to provide the storage media for the supply of the Digital Map product files unless Lands Department advises the otherwise.
- 19.3 All the mapping information provided is for the exclusive use of the *services*. In using the

Digital Map products supplied by Lands Department, the *Consultant* abides by the terms and conditions as stipulated in the undertaking form. Upon completion of the *services*, the *Consultant* destroys immediately the supplied Digital Map products and confirms the destruction to Lands Department by completing and returning the form “Confirmation by Government’s Consultant/Contractor on the Cessation of the Use of Digital Map from Land Information Centre” (SMF-0097) to the *Employer’s Agent* within two weeks upon completion of the *services*.

- 19.4 All the lot boundary information provided is for identification of the approximate location of lot only and is subject to amendments by the Lands Department without prior notice. The *Consultant* refers to the District Survey Offices of the Lands Department for the most up-to-date lot boundary information.
- 19.5 The *Consultant* is responsible for verifying the accuracy and, where necessary, updating all survey and mapping information provided. Unless otherwise provided for in the *services*, all field survey work required for the proper execution of the *services* are the duty of the *Consultant*. A copy of field notes, field data and resultant plans arising from these surveys shall be handed over to the *Employer’s Agent* in hardcopy (paper, transparency and/ or microfilms) and MicroStation (DGN) file format upon completion of the *services*. The accuracy as well as presentation of these surveys should be of a standard agreed by the *Employer’s Agent*.
- 19.6 The *Consultant* is responsible for submitting drawing computer files which shall be delivered on compact disc in MicroStation (DGN) file format unless otherwise specified by the *Employer’s Agent*. The survey drawings shall be in compliance with the CAD Standard for Works Project (CSWP) version 1.03.00 (or later versions as agreed by the *Employer’s Agent*) as posted on the Development Bureau’s web-site and the Drafting Specification for Engineering Survey Rev 2.0 (or later versions as agreed by the *Employer’s Agent*) as posted on Civil Engineering and Development Department’s web-site.
- 19.7 **Appendix D** specifies the division of responsibility for other surveying between the *Consultant*, the Lands Administration Office and Survey and Mapping Office as well as the relevant sub-offices at district level of the Lands Department.

--- End of Scope ---

Appendix A

Preparation of Deliverables in Electronic Format

- (1) The contents of each document, where applicable, are hosted in two file formats:
 - (a) Editable File format – which is in file formats that are editable by mainstream computer applications for office automation and computer-aided drafting; and
 - (b) Image File format – which in file formats that capture the printed image of the documents.
- (2) The electronic document files are submitted on write once type CD-ROM media complying with ISO 9660 standard and/or write once DVD-ROM media in DVD+R or DVD-R format. All CD-ROMs and/or DVD-ROMs should be clearly labelled or marked to indicate the Agreement number, the Agreement title, EPD's full name and logo, the name and the chop of the *Consultant*, and the disk number if more than one CD-ROM and/or DVD-ROM is submitted. Each CD-ROM and/or DVD-ROM has a "README.rtf" file in the root directory prepared in Word Format. This file contains at least the following information:
 - (a) general guidance on the use of the electronic files (e.g. the file naming convention, directory structure of the CD-ROM and/or DVD-ROM, software name and version for viewing the file);
 - (b) a list of all documents with the following information-
 - (i) Scope description of the contents of the document; and
 - (ii) disk number (if the submission contains more than one CD-ROM and/or DVD-ROM) and filename with full path information for the Editable File and/or the Image File.
 - (c) information on the proper setting for viewing, editing, and printing the electronic files, including, without limitations-
 - (i) the printer to be used for printing the files;
 - (ii) the paper sizes;
 - (iii) requirements for special fonts;
 - (iv) any special printing instructions (e.g. the adjustment settings such as “Shrink oversized pages to paper size”, “Expand small pages to paper size”, etc. when printing PDF files).
- (3) The *Consultant* uses the write once type CD-ROM and/or DVD-ROM media. Re-writable media shall not be used. The CD-ROM and/or DVD-ROM shall be logically closed such that no subsequent change can be made to the electronic files.

- (4) CD-ROM and/or DVD-ROM shall be properly packed and protected to avoid physical damage.
- (5) The CD-ROMs and/or DVD-ROMs and the electronic files do not contain any computer instructions, including but not limited to –
- (a) computer viruses/malware; and
 - (b) macros, scripts and fields that depend on the execution environment and the execution of which will cause changes to the electronic file itself or the information system displaying the electronic record.
- (6) The *Consultant* submits documents in electronic form using the data formats stipulated as follows:

Type of Document	Editable File format	Image File format	Remark
Activity Schedule and other Schedules	Microsoft Excel format (.xls); or ISO/IEC 29500:2008 format (.xlsx)	Adobe Portable Document Format (PDF) v1.5, 1.6 or 1.7 (ISO 32000-1)	Please also read Note 1 below.
Text documents	Rich Text Format; or Microsoft Word format (.doc); or ISO/IEC 29500:2008 format (.docx)	Adobe Portable Document Format (PDF) v1.5, 1.6 or 1.7 (ISO 32000-1)	Please also read Note 1 below.
Drawings	Microstation DGN format; AutoCAD format; Autodesk Drawing Exchange Format (DXF); or Initial Graphic Exchange Specification (IGES)	Adobe Portable Document Format (PDF) v1.5, 1.6 or 1.7 (ISO 32000-1)	Please also read Note 1 and 4 below.
Slide presentation	Microsoft PowerPoint format (.ppt); or ISO/IEC 29500:2008 format (.pptx)	Adobe Portable Document Format (PDF) v1.5, 1.6 or 1.7 (ISO 32000-1)	
Other types of documents, including scanned documents or scanned drawings	Not Applicable	Adobe Portable Document Format (PDF) v1.5, 1.6 or 1.7 (ISO 32000-1)	Please also read Note 1 below.

Note 1: If more than one file format are specified, files need to be provided in one of the specified formats only.

Note 2: For files generated by BIM, please refer to the file format required for the respective types of documents as specified in the agreed BIM PXP.

Note 3: Please ensure that appropriate viewers/codecs are openly accessible to the *Consultant* (e.g. as freeware downloadable from the Internet), and should provide a pointer to the viewer/codecs as necessary.

Note 4: Computer-Aided-Drafting (CAD) drawings shall be prepared conforming to the CAD Standard for Works Projects version 1.03.00 or later versions as posted on the Development Bureau's web site <http://www.devb.gov.hk/cswp>.

- (7) As the conversion of drawing files to Adobe Portable Format (PDF) may slightly distort the scale of the drawing elements, line scales in both horizontal and vertical directions should be included in drawings files to enable correction factors to be made to compensate for distortion.
- (8) For the avoidance of doubt, Activity Schedule and Schedule of Rates (if applicable) shall only be submitted in Editable File format, i.e. the Excel format.
- (9) Notwithstanding paragraph (5) above, the electronic files for Activity Schedule, Bills of Quantities and Schedule of Rates (if applicable) may contain simple arithmetic for automatic calculation of the totals and sub-totals. However, any reference made in the arithmetic formula shall be within the same file and the automatic calculation shall not be dependent on other files.
- (10) File compression programs should not be used to compress files.

Appendix B

Green Requirements of Document Preparation

- (1) Print all tender documents, tender submissions, reports, technical notes, working papers with single line spacing on both sides, and preferably on recycled paper.
- (2) Print final deliverables with recycled paper of at least 50% recycled pulp or at least 20% post-consumer fibres by weight and not exceeding 80gsm. The logo of recycled paper should be printed in prominent area of the report.
- (3) Encourage the submission in electronic format as far as possible.
- (4) Use environmentally friendly ink that contains a minimum of 60% vegetable oil or 20% soybean and a low content of volatile organic compound as far as possible. The use of environmentally friendly ink should be mentioned at the back of the report if used.
- (5) Use non-glossy recyclable art boards instead of glossy or plastic covers. Avoid unnecessary or excessive use of plastic laminates, or double covers as far as possible.
- (6) Use staples instead of plastic binder rings if practicable for binding, on the condition that the functional requirements could be achieved (e.g. plastic binder can be used where the report is too thick for stapling or the report is required to lay-out flat two pages).
- (7) Reduce number of pages by reducing the size of typeface (font). For example, use 'Time Roman' or 'C.G. Times' font size not larger than point 12 or 10 characters per inch (cpi) in balancing legibility and clarity against our waste reduction objective. The appearance and readability of the document can be improved by using two columns where the font size used is 12 points.
- (8) Minimise the use of colour print if possible, taking into account the need to strike a balance between benefits of colour presentation and environmental friendliness.
- (9) Minimize the use of coloured paper.
- (10) Avoid excessive blank space around the borders and in between the paragraphs of all documents. A margin of 2 cm should be sufficient.
- (11) Avoid excessive use of blank papers.
- (12) Avoid using bleached papers nor excessively thick and heavy papers if possible.

Appendix C

Information Provided by the *Employer* (non- exhaustive)

- (1) Agreement No. CE 97/96 – Feasibility Study of Waste-to-Energy Incineration Facilities
- (2) Agreement No. 23/2000 – Additional Study of Waste-to-Energy Facilities
- (3) Tender Ref. SW 03-124 – Site Search for Integrated Waste Management Facilities in Hong Kong for Municipal Solid Waste
- (4) Agreement No. CE 29/2008 (EP) – Engineering Investigation and Environmental Studies for Integrated Waste Management Facilities Phase 1 – Feasibility Study
- (5) Agreement No. CE 77/2014 (EP) – Study on Planning of Future Environmental Infrastructure Facilities for Waste Treatment and Transfer in Hong Kong – Feasibility Study
- (6) Agreement No. CE 68/2020 (EP) – Development of Tai Sheung Tok Transfer Station - Investigation

Appendix D

Responsibility for Survey Work

The division of responsibility among the *Consultant*, the Lands Administration Office, and the Survey and Mapping Office of the Lands Departments for surveying required in connection with the *services* shall be as follows:

	<u>Task</u>	<u>Responsibility of</u>
(1)	(a) Provision of basic horizontal and vertical survey control	Survey and Mapping Office (<i>Consultants</i> to download from www.geodetic.gov.hk)
	(b) Checking of given control point values and establishment of survey control net-work(s) based on survey control given vide (a)	<i>Consultants</i>
(2)	(a) Provision of topographic maps (at 1:1000 or other standard scales relevant to the <i>services</i>)	Survey and Mapping Office (excluding those specified as to be provided by the <i>Consultant</i> in the <i>services</i>)
	(b) Provision of available Digital Map products relevant to the <i>services</i>	Land Information Centre, Survey and Mapping Office
	(c) Updating and verification of accuracy of information supplied vide (a) and (b) as necessary in relation to the <i>services</i>	<i>Consultants</i>
	(d) Carrying out detailed surveys for site investigation and for preparation of design and contract documents as necessary in relation to the <i>services</i>	<i>Consultants</i>
(3)	Supply of existing cadastral plans and records and co-ordinate data	District Survey Office
(4)	Computation of detailed dimensioned layouts of roads, drainage and waterworks reserves, platforms, etc.	<i>Consultants</i> (checked and accepted by District Survey Office)
(5)	Determination of site/lot boundaries, calculation of areas, etc. in connection with the agreed dimensioned layouts	District Survey Office (in liaison with District Lands Office)

<u>Task</u>	<u>Responsibility of</u>
(6) (a) Processing of resumption and surrender for privately owned land in Development Area	District Lands Office (in liaison with District Survey Office and <i>Consultants</i>)
(b) Resumption and surrender plans and demarcation of lands to be resumed	District Survey Office (in liaison with District Lands Office and <i>Consultants</i>)
(7) (a) Setting-out of roads, drainage works, formation areas, etc.	Contractors (checked and accepted by <i>Consultants</i> , usually by resident site staff under their supervision.)
(b) Initial site survey, and interim and final payment surveys	<i>Consultants</i> , usually by resident site staff under their supervision (joint survey with contractors or agreed survey with contractors)
(8) Preparation of proposal plans for Government land allocations and other land grants relevant to the <i>services</i>	District Survey Office (in liaison with District Lands Office)
(9) Preparation of dimensioned plans and setting out of boundaries of sites and lots for Government land allocation and other land grants relevant to the <i>services</i>	District Survey Office
(10) As-built surveys on all completed phases of the Works (including records of positions and levels on all underground pipelines, etc.)	<i>Consultants</i> , usually by resident site staff under their supervision.
(11) Submission of a set of as-built survey plans in hardcopy (paper, transparency and/or microfilms) and soft copy comply with the specifications to the Department submitted upon phase completion of the Works.	<i>Consultants</i> , usually by resident site staff under their supervision.
(12) Supply a set of as-built survey plans in both hardcopy and softcopy to the Land Information Centre of the Survey and Mapping Office of the Lands Department	<i>Consultants</i> , usually by resident site staff under their supervision.
(13) For as-built surveys of those completed road works to be handed over to Highways Department for maintenance, submission of a set of road inventory data in GIS format in compliance with the specifications to Highways Department. A copy of the submission should also be provided to the Land Information Centre of the Survey and Mapping Office of Lands Department.	<i>Consultants</i> , usually by resident site staff under their supervision.