



HKIU BIM Agreement

for Design Consultancy
and Sub-Contract

First Edition 2017

Acknowledgement

The Institute hereby expresses its sincere gratitude to Build.IT for sharing their valuable experience in true BIM implementation, Mr. John Chung for his legal advice, and Members of HKIUS for their assistance in drafting the HKIUS BIM Agreement.

© Hong Kong Institute of Utility Specialists 2017

Hong Kong Institute of Utility Specialists

Unit 209, 2/F, Favor Industrial Center,

2-6 Kin Hong Street, Kwai Chung,

N.T., H.K.

www.hkius.org.hk

First Edition May 2017

While every effort has been made to ensure the accuracy and quality of information contained in this publication, Hong Kong Institute of Utility Specialists, its employees, agents or industry partners shall take no responsibility for the subsequent use of this information, nor for any errors or omissions that it may contain.

Ir. C.K. Ng
President of HKIUS

Contents

Definitions and Interpretation	4
Implementation of BIM in Project	11
Conditions Precedent.....	11
Obligations of The Project Team Member	12
Employer's Information Requirement	15
BIM Execution Plan	16
BIM Information Exchange Process Map	17
BIM Managers	18
BIM Meeting	20
Information Exchange	21
Quality of Models	22
Model Conversion Requirements	23
Information System and Data Security.....	24
Amendments	25
Term and Termination	26
Intellectual Property Rights	28
Indemnity.....	29
Confidentiality	30
Entirety of Agreement	31
Severability	31
Force Majeure	31
No Implied Waivers	32
Compliance with Other Agreements.....	32
Survival	32
Third-Party Rights.....	32
Governing Law	33
Dispute Resolution	33
Schedule A - Employer's Information Requirement	34
Schedule B - BIM Information Exchange Process Map	35
Schedule C - Level of Development	36
Schedule D - BIM Execution Plan	37
Schedule E - Template of The Information Exchange Protocol	38
Schedule F - Template of The CSD Information Exchange Protocol	39
Schedule G - BIM Uses	40

HKIU BIM AGREEMENT

HKIU BIM AGREEMENT FOR DESIGN CONSULTANCY & SUB-CONTRACT (ver.1.0)
Copyright © 2017 HKIU All rights reserved

FOR DESIGN CONSULTANCY & SUB-CONTRACT

THIS HKIUS BIM AGREEMENT (this “**Agreement**”) is made on the [day] day of [month], [year] (“**Effective Date**”):-

BETWEEN

1. **[NAME OF MAIN CONTRACTOR]**, [TYPE OF LEGAL ENTITY] incorporated and/or registered in [COUNTRY OF INCORPORATION] whose registered office is situated at [ADDRESS] (“**Main Contractor**”).
2. **[NAME OF DESIGNER/CONSULTANT/SUB-CONTRACTOR]**, [TYPE OF LEGAL ENTITY] incorporated and/or registered in [COUNTRY OF INCORPORATION] whose registered office is situated at [ADDRESS] (“**Project Team Member**”).

Main Contractor and Project Team Member shall hereinafter each be referred to as a “**Party**” or collectively be referred to as the “**Parties**”.

WHEREAS:

1. **[NAME OF EMPLOYER]** (“**Employer**”) is the initiator of a construction project and desires to adapt and implement Building Information Modelling as set forth below and detailed in the Employer’s Information Requirement (as defined below).
2. Main Contractor is appointed by the Employer to act as the main coordinator in managing said construction project and has extensive expertise and experience in relation to the implementation and coordination of Building Information Modelling in wider scope of professions in the construction project.
3. Project Team Member is engaging in the process of design, construction, operation or maintenance and has extensive expertise and experience in relation to the implementation of Building Information Modelling within its profession for effective, efficient, reliable and accurate data communication with other team members in the Project.
4. This BIM Agreement is drafted with reference to a range of documents, publications and industrial practices, including the National BIM Guide for Owners developed by the National Institute of Building Sciences and the BIM Protocol developed by the BIM Task Group.

5. The Parties are therefore desirous to enter into this Agreement to set out their respective rights and obligations in relation to the aforesaid cooperation on the terms and conditions hereinafter appearing.

IT IS AGREED as follows:-

2. DEFINITIONS AND INTERPRETATION

- (a) Unless otherwise specified herein or to the context clearly requires otherwise, the following words and phrases shall have the corresponding meaning specified below:-

“2D CAD Drawing” means any two-dimensional plans, sketches or other representation of part of the physical and/or functional characteristics of the Project or any part thereof created by Team Member pursuant to this Agreement.

“Affected Party” in relation to any Force Majeure Event has the meaning specified in Clause 22.

“Assignment Agreement” means any construction contract or consultancy agreement duly signed by both Parties prior to or after the Execution Date for assigning the Project Team Member with a role of construction, design, management or consultancy for the Project.

“Building Information Modelling” or “BIM” means a process in which different Project Teams develop the Models about a Project, exchange information thereof and collaborate by means of sharing information with a view to providing an effective, efficient, reliable and accurate data communication to Project Teams for decisions throughout the Project Lifecycle.

“BIM Information Exchange Process Map” means a process map as annexed hereto as Schedule B subject to any amendments pursuant to Clause 15 specifying the types of document, manner and at such schedule and due dates (if any) for Project Teams to exchange or publish throughout the Project Lifecycle.

“BIM Execution Plan”	means any documented plans or execution strategies as annexed hereto as Schedule D subject to any amendments pursuant to Clause 15 for implementing BIM in the Project pursuant to this Agreement and agreed by the Main Contractor and all Project Teams throughout the Project Lifecycle.
“BIM Lead”	means any person or legal entity assigned by a Project Team to lead the implementation of BIM for such Project Team in the Project on behalf of the discipline of such Project Team during the Term pursuant to this Agreement.
“BIM Manager”	means Project BIM Manager, Construction BIM Manager and Design BIM Manager collectively.
“BIM Meeting”	means any meetings or co-location workshops held pursuant to Clause 10 for the implementation of BIM in the Project.
“BIM Use”	means any method of applying Building Information Modelling during the Project Lifecycle to achieve one or more objectives. Typical BIM Use for a Project with the corresponding definition is annexed hereto as Schedule G.
“Combined Builder’s Work Drawing” or “CBWD”	means any drawings prepared by a Project Team with all openings and equipment foundations, in particularly, such openings shall include, but be not limited to wall openings, roof openings and slab openings.
“Combined Services Drawing” or “CSD”	means any drawings prepared by a Project Team to show the locations, layouts and sizes of all Services including those of other Project Teams and coordinate the work by each Project Team.
“Combined Services Drawing Information Exchange Protocol”	means any documentation detailing the content and manner on the exchange of Combined Services Drawings between Project Teams. The template of the CSD Information Exchange Protocol is annexed hereto as Schedule F.

“Common Data Environment” or “CDE”

means a common source of information for collecting, managing and disseminating Models, documentations and/or other deliverables for facilitating collaboration between Project Teams pursuant to this Agreement.

“Construction BIM Manager”

means any persons or legal entities with relevant practical construction knowledge and design coordination experience appointed by the Main Contractor to perform Project BIM Manager role throughout the construction phase and other phases specified in the EIR.

“Construction Model”

means a digital three-dimensional representation of part of the physical and/or functional characteristics of the Project as specified in the BIM Execution Plan for the construction, estimation of quantities, project scheduling, preparation of tendering conditions and other purposes. Construction Model can be imported from a Design Model or any designer’s construction document.

“Design BIM Manager”

means any persons or legal entities with relevant practical construction knowledge and design coordination experience appointed by the Main Contractor to perform Project BIM Manager role throughout the design phase, conceptual phase, preparation phase and other phases specified in the EIR.

“Design Model”

means a digital three-dimensional representation of part of the physical and/or functional characteristics of the Project as specified in the BIM Execution Plan prepared by an architect or engineer for facilitating the structural analysis, estimating the cost, performing the environmental analysis, fulfilling any regulations and other purposes.

“Discipline Lead”

means any person or legal entity assigned by a Project Team to lead the design or construction for such Project Team in the Project during the Term pursuant to this Agreement. Discipline Lead shall have sufficient knowledge on the relevant discipline of such Project Team and wholly responsible for the Models and other documentations delivered.

“Disclosing Party”	in relation to any Confidential Information has the meaning specified in Clause 19.
“Employer”	is the legal entity set forth above appointing Main Contractor and Project Team Member (if applicable) pursuant to an Assignment Agreement.
“Employer’s Information Requirement” or “EIR”	means the written documentation as annexed hereto as Schedule A subject to any amendments pursuant to Clause 15 on its intents, expectations, goals, business practices and any other requirements from time to time issued by Employer for the Project with respect to the implementation and execution of BIM.
“Execution Date”	is the date of execution of this Agreement, set forth at the first paragraph.
“Force Majeure Event”	means an event or circumstance, or combination of events or circumstances, including but not limited to war (whether or not declared), acts of governments, export or import prohibitions, breakdown or general unavailability of transport, general shortages of energy, fire, explosions, accidents, civil commotion and riots, that (i) is beyond the reasonable control of the Party affected by the events or circumstances; (ii) necessarily causes or results in a default or delay in that Party performing its obligations under this Agreement; and (iii) could not, or the effects of that event could not, have been prevented, overcome or remedied by the exercise of a standard of care and diligence consistent with that of a reasonable person under the circumstances, by the Party prevented or delayed. For the avoidance of doubt, the Force Majeure Event shall not include any inability to pay amounts due; and any Force Majeure Event caused or contributed to by a party, its employees, agents and subcontractors.
“HKIUS”	is the “Hong Kong Institute of Utility Specialists”.
“Indemnified Persons”	in relation to the indemnity has the meaning specified in Clause 18.
“Information Exchange Protocol”	means any documentation detailing the content and manner on the exchange of Models and other documentations between Project Teams. The template of the Information Exchange Protocol is annexed hereto as Schedule E.

“Intellectual Property” or “Intellectual Property Rights”

means and includes patents, patent applications and patent disclosures; inventions (whether or not patentable and whether or not reduced to practice); trademarks, services marks, trade names and corporate names (in each case whether registered or unregistered) and the goodwill associated therewith; all registered and unregistered copyrights; registrations, applications and renewals for any of the foregoing; trade secrets, confidential information, Models, documentations, know-how, manufacturing and production processes and techniques, research, information, specifications, databases, designs, plans, improvements, proposals, technical and computer data, documentation and software, financial, business and marketing plans, lists and related information, marketing materials and all other proprietary rights, domestic and foreign.

“Level of Development” or “LOD”

means the level of precision of the content in a Model delivered, received, exchanged or published for the BIM Use by other Project Teams pursuant to this Agreement, with definition of each LOD set forth in Schedule C. Project Teams receiving a Model may rely on the accompanying LOD information to determine how to use such Model.

“Model”

means a digital representation of part of the physical and/or functional characteristics of the Project or any part thereof including but not limited to 3D CAD drawings, sketches, notes, remarks and specifications. Model is a shared knowledge resource for information about the Project, forming a reliable basis for decisions throughout the Project Lifecycle pursuant to this Agreement.

“Model Originator”

in relation to any information exchange means the Project Team or party creating Model and delivering, exchanging or publishing such Model to the Model Receiver.

“Model Conversion Test”

has the meaning set forth in Clause 13.

“Model Receiver”

in relation to any information exchange means the Project Team or party receiving Model from the Model Originator.

“Parties”

means Main Contractor and Project Team Member collectively; and **“Party”** means any one of them.

“Project”	means the construction project initiated by Employer in relation to the process of design, construction, operation and/or maintenance.
“Project BIM Manager”	means any persons or legal entities with relevant practical construction knowledge and design coordination experience appointed by the Main Contractor to perform the management and communication role for all BIM-related issues with a view to ensure the full compliance of the EIR by Project Teams.
“Project Lifecycle”	means the entire period of time when BIM is implemented on the Project.
“Project Team”	means any legal entities appointed by Main Contractor or Employer (if applicable) pursuant to an Assignment Agreement in relation to the production, delivery and/or use of Models in the Project. Project Team may vary from time to time at different phase of the Project Lifecycle, including architect, building services engineer, civil engineer, estimator, land surveyor, landscape architect, land surveyor, MEP engineer, project scheduler, quantity surveyor, structural engineer, utility specialist, facility manager, contractors and sub-contractors, <i>inter alios</i> .
“Project Team Member”	means the legal entity set forth above appointed by Main Contractor pursuant to an Assignment Agreement in relation to the production, delivery and/or use of Models in the Project.
“Representatives”	of a party means and includes the party's employees, officers, directors, servants, affiliates, consultants, agents, advisors, independent contractors, sub-contractors, service providers, licensees, agents, invitees and vendors.
“Receiving Party”	in relation to any Confidential Information has the meaning specified in Clause 19.
“Service”	means the engineering services for HVAC, plumbing, fire protection and electrical systems.
“Term”	means the term of this Agreement between Main Contractor and Project Team Member.
“Unaffected Party”	in relation to any Force Majeure Event has the meaning specified in Clause 22.

(b) In this Agreement (except as otherwise specified therein), the following rules of interpretation apply unless the contrary intention appears:-

- (i) where the context so admits, the use of the singular includes the plural and the use of the plural includes the singular and reference to any one gender imports a reference to the masculine, feminine and neuter genders;
- (ii) references to a “person” includes any individual person, partnership, firm, company, body corporate or corporation or organization;
- (iii) references to any Exhibit, Annexure, Schedule or Appendix (if any) are to the Exhibit, Annexure, Schedule or Appendix of this Agreement except where otherwise stated. The Exhibit, Annexure, Schedule and Appendix form an integral part of this Agreement as if they were set out verbatim in full in the main body of this Agreement;
- (iv) references to any Party by their defined terms include that Party's executors, administrators or permitted assigns, or being a company, its successors or permitted assigns;
- (v) references to this Agreement include any permitted variation, supplement to, replacement or novation of this Agreement;
- (vi) references to statutory provisions shall be construed as references to those provisions as amended or re-enacted or as their application is modified by other provisions (whether before or after the date of this Agreement) from time to time and shall include any provisions of which they are re-enactments (whether with or without modification);
- (vii) “including,” and “includes” are deemed to be followed respectively by “but not limited to” and “but is not limited to,” respectively, and “or” is not exclusive;
- (viii) the words “herein,” “hereof” and “hereunder” and other words of similar nature refer to this Agreement as a whole, including all Exhibits, Annexures, Schedules or Appendixes (if any) and not to any particular Clause, Section or other subdivision of this Agreement;
- (ix) every agreement or undertaking expressed or implied by which more than one person agree or undertake any obligation or derive any benefit in terms of this Agreement shall bind or inure for the benefit of such persons jointly and each of them severally;

- (x) headings to Clauses and Clauses of this Agreement are for the purpose of information and identification only and do not form part of this Agreement; and
- (xi) any undertaking by any Party not to do any act or thing shall be deemed to include an undertaking by that Party not to permit or suffer the doing of that act or thing.

3. IMPLEMENTATION OF BIM IN PROJECT

- (a) Employer desires to use BIM in the Project pursuant to the terms and conditions herein this Agreement and the Employer's Information Requirement annexed hereto as Schedule A.
- (b) Main Contractor, pursuant to the instruction of Employer, enters into this Agreement with Project Team Member in relation to the implementation of BIM. Project Team Member undertakes and agrees to implement BIM in its relevant discipline of said Project in such manner, extent and conditions as Main Contractor shall require in the terms and conditions in this Agreement and the Employer's Information Requirement and to deliver, receive, exchange or publish Models to Main Contractor, and/or other Project Teams in accordance to any and all requirements and conditions set forth in the BIM Execution Plan and BIM Information Exchange Process Map. For the avoidance of doubt, any Model delivered by the Project Team Member pursuant to this Agreement shall fully comply with the conditions set forth herein.
- (c) Project Team Member acknowledges the objectives of this Agreement and any other agreements duly signed by both Parties prior to or after the execution of this Agreement for the purpose of designing, constructing, maintaining, surveying or performing other operations for the Project, and shall try all commercial endeavour to observe and achieve such objectives in the performance and discharge of its obligations and liabilities therein.

4. CONDITIONS PRECEDENT

- (a) Notwithstanding anything to the contrary contained herein this Agreement, the effectiveness or validity of this Agreement on the Effective Date is subject to the satisfaction of the following conditions precedent within 1 month from the Effective Date:-
 - (i) Project Team Member shall have signed an Assignment Agreement or other agreements of the same nature with the Main Contractor in relation to the Project;
 - (ii) Project Team Member shall have completed to the satisfaction of Main

Contractor the Model Conversion Test as specified by Clause 13 unless such test is waived by the written consent from Main Contractor;

- (iii) If the BIM Execution Plan is prepared prior to the appointment of the Project Team Member, Project BIM Manager shall have revised and updated the BIM Execution Plan and BIM Information Exchange Process Map (if applicable) with the assistance of the Project Team Member to make any amendments on the goals, deliverables, Information Exchange Protocol and other details in relation to the execution of BIM in Project and any standard practice information of the Project Team Member;
- (iv) Project Team Member shall have established Information Exchange Protocols with each relevant Project Team pursuant to Clause 11 and properly document the details using the “Template Of The Information Exchange Protocol” as annexed hereto as Schedule E to specify the procedures and exchange details, including but not limited to the software to be used; and
- (v) Project Team Member shall have performed in all material respects all other obligations and complied in all material respects with all the terms and conditions required by this Agreement to be performed.

5. OBLIGATIONS OF THE PROJECT TEAM MEMBER

- (a) For the purposes of the Project and the management of BIM information, Project Team Member hereby agrees and undertakes to prepare, create, develop, update and submit Models and other documents attached therewith to Main Contractor and/or Project Teams upon the terms and conditions herein.
- (b) Unless otherwise is agreed by both Parties in writing and pursuant to Sub-Clause (a) above, Models shall:-
 - (i) not be developed using tools with known incompatibility with the BIM software used by Main Contractor in terms of the accuracy and consistency or other 3D modelling tools from time to time restricted by Main Contractor or BIM Managers;
 - (ii) use AutoCAD 3D or other equivalent tools for the purpose of exchanging information;
 - (iii) fully indicate all pipes and conduit with diameter more than or equal to 50mm (if necessary);
 - (iv) properly and precisely indicate all fire services and related details in compliance with any statutory requirement; and
 - (v) not specify any rebar.

- (c) Project Team Member shall appoint at least one of its experienced and qualified senior staffs to be the BIM Lead, who shall be fully responsible to represent and communicate for and on behalf of Project Team Member with other Project Teams, BIM Managers and Main Contractor in relation to the implementation of BIM pursuant to this Agreement.
- (d) Project Team Member shall appoint at least one of its experienced and qualified senior staffs to be the Discipline Lead, who shall be fully responsible for the design / construction of the Project and the accuracy of the work or deliverables.
- (e) Project Team Member shall provide assistance to Project BIM Manager in preparing and revising the BIM Execution Plan, and in particular, shall advise Project BIM Manager on any standard practice information (including information exchange requirements) in the discipline. Project Team Member shall follow the BIM Execution Plan and cooperate with Main Contractor and other Project Teams to implement such BIM Execution Plan in its entirety.
- (f) In relation or incidental to the preparation, creation, development, revision, submission and all other aspects of the Models, Project Team Member shall have, *inter alia*, the following obligations:-
- (i) Project Team Member shall:-
1. from time to time deliver, receive, exchange or publish Models and other documents pursuant to Clause 11 below.
 2. clearly specify and indicate thereto the Level of Development (as defined in Schedule C) of all Models delivered by the Project Team Member, and ensure that such Models are prepared in full compliance with such Level of Development.
 3. in case if 2D CAD Drawings or minor amendment on Models are delivered, clearly and precisely indicate on such 2D CAD Drawings or amendment with sufficient information to the satisfaction of BIM Managers pertaining to the 3D positions or coordinates.
 4. manage the Common Data Environment or any BIM database pursuant to the instructions from time to time issued by the Main Contractor or BIM Managers.
 5. report to BIM Managers any suspected or identified issue in relation to the Models prepared by any Project Teams as soon as practically possible, in particular any clashes, conflicts or abnormalities in Models.
 6. attend and take part in any BIM Meetings pursuant to Clause 10 to discuss the BIM coordination issues in relation to the design and construction of Project.
 7. fulfil any additional roles and responsibilities as defined in and required by the BIM Execution Plan and/or other agreements.

- (ii) In case if Project Team Member is MEP engineer, such Project Team Member shall further:-
1. establish the Combined Services Drawing Information Exchange Protocol with each relevant Project Team pursuant to Clause 11 and properly document the details using the “Template of the Combined Services Drawing Information Exchange Protocol” as annexed hereto as Schedule F to specify the procedures and exchange details.
 2. prepare the Combined Services Drawing (CSD) in accordance to the Combined Services Drawing Information Exchange Protocol and procure such CSD to BIM Managers or other Project Teams pursuant to the information exchange requirement set forth in Clause 11.
 3. prepare the Combined Builder’s Work Drawing (CBWD) and procure such CBWD to BIM Managers or other Project Teams pursuant to the information exchange requirement set forth in Clause 11.
- (iii) In case if Project Team Member is architect, landscape architect, structural engineer, civil engineer or other specialists, such Project Team Member shall further:-
1. prepare and procure Models, documentations and/or other deliverables pursuant to the BIM Execution Plan to Project Teams for construction purposes.
 2. revise and procure the Models, documentations and/or other deliverables as prepared above in Sub-Clause (iii)(1) pursuant to the instruction of Main Contractor for obtaining tender purposes.
 3. perform engineering analysis on the Models to determine the behaviour of a given structural system.
- (iv) In case if Project Team Member is project scheduler, such Project Team Member shall further supplement the Models delivered by Project Teams with time factor of the construction schedule to generate model-based 4D scheduling or other construction sequencing with a view to visualize any logistical issues, conflicts or inefficiencies.
- (v) In case if Project Team Member is quantity surveyor, such Project Team Member shall further supplement the Models delivered by Project Teams (architect and engineers) with cost related information to generate model-based 5D quantity takeoff (QTO) with a view to analysis and estimate the quantities for the Project.
- (vi) In case if Project Team Member is land surveyor, such Project Team Member shall further perform BIM-enabled laser scanning and modelling, and procure such result to Project Teams for the purpose of this Agreement.

- (vii) In case if Project Team Member is building services engineer or contractor,

such Project Team Member shall further:-

1. collect and combine, and/or cause any sub-contractors to collect and combine the construction related information (including clash report) for BIM Managers and other Project Teams.
2. deliver, and/or cause any sub-contractors to deliver as-built Models to BIM Managers and Main Contractor.

(viii) In case if Project Team Member is facility manager, such Project Team Member shall further from time to time specify any BIM data capture or other monitoring requirement for managing the facility.

(g) Project Team Member shall at any time during the Term give written notice to Main Contractor and BIM Managers, upon the occurrence of any one or more of the following events:

- (i) appointment of BIM Lead or Discipline Lead;
- (ii) replacement or resignation of BIM Lead or Discipline Lead;
- (iii) change of address, e-mail address, telephone number or other communications particulars;
- (iv) receipt of any written notice from any third party on matters in relation to Project that reasonably likely have significant impact thereto; and
- (v) any other changes of fact, event or circumstances in relation to Project.

6. EMPLOYER'S INFORMATION REQUIREMENT

(a) Employer shall provide the Employer's Information Requirement and/or other documentation as annexed in Schedule A detailing the objectives, expectations, goals, business practices and any other requirements for the Project with respect to the implementation and execution of BIM at the commencement of the Project. Employer may from time to time revise and supplement the Employer's Information Requirement by amending, supplementing, replacing or removing the requirement hereunder Schedule A pursuant to Clause 15.

(b) The Employer's Information Requirement defines the details on the approach and parameters for designing the building using BIM, which in turn such details are transferred to and recorded in the construction documents, including but not limited to the BIM Execution Plan by Project BIM Manager pursuant to Clause 7(b).

(c) The Employer's Information Requirement with respect to the implementation of BIM may include, but be not limited to:-

- (i) Project overall goals;
- (ii) BIM requirements based on the Project delivery method;

- (iii) role and responsibilities of each Project Team;
 - (iv) budgets and resources for implementing BIM in the Project;
 - (v) schedules and timelines for each phase;
 - (vi) functional requirements of the building; and
 - (vii) other requirements to be included by the Employer.
- (d) Before the execution of this Agreement, Project Team Member shall have performed a comprehensive feasibility study on the relevant BIM goals and requirements in the Employer's Information Requirement to ensure that the Project Team Member can meet the goals and requirements with the current technology practices and its capability.

7. BIM EXECUTION PLAN

- (a) Project Team Member expressly acknowledges that BIM Execution Plan is an important document for the success in integrating BIM into the Project. The BIM Execution Plan shall outline the overall vision along with the implementation details for Project Teams to follow throughout the Project Lifecycle.
- (b) Unless otherwise is instructed by the Main Contractor, Project BIM Manager or other BIM consultant as directed by the Main Contractor shall, based on the Employer's Information Requirement or any other Employer's instructions, prepare and provide the initial draft of the BIM Execution Plan with the assistance from the Main Contractor, Design BIM Manager, Construction BIM Manager and/or any Project Teams, within one (1) month after the commencement of the Project or within a period after the commencement of the Project as the Main Contractor at its sole and absolute discretion considers appropriate. The BIM Execution Plan shall be refined and developed throughout the Project Lifecycle, and may from time to time be amended, revised or supplemented pursuant to Clause 15.
- (c) For the purpose of the Project and the success of the BIM implementation, the BIM Execution Plan shall include, but be not limited to:-
- (i) BIM Execution Plan Overview, detailing the reasons for creating this BIM Execution Plan;
 - (ii) Project Information, such as Project location, Project description, critical milestones and schedule dates;
 - (iii) Key Project Contracts, listing the detailed information for existing and future contracts;
 - (iv) BIM Goals and Objectives, documenting the strategic value and the BIM Use at different phases of the Project Lifecycle as defined by the Project Teams in the initial step of the planning;
 - (v) Organizational Roles and Staffing, defining the BIM Managers and other coordinator(s) of the BIM planning and execution at different phases of the

Project Lifecycle;

- (vi) BIM Process Design, illustrating the execution process through the use of process maps or other tools which are developed during the planning procedure;
 - (vii) BIM Information Exchanges, detailing the information exchange requirements for delivering Model and other information to BIM Managers, Main Contractor and/or other Project Teams;
 - (viii) BIM Data Requirement, detailing the documents, LOD and other data required to accompany with the Model for a specific BIM Use;
 - (ix) Collaboration Procedures, defining the electronic and collaboration activities protocol, procedures and/or arrangements;
 - (x) Model Quality Control Procedures, setting out the requirement that the Project Teams shall meet and maintain throughout the Project;
 - (xi) Technology Infrastructure Needs, defining the required hardware, software, network and other infrastructures;
 - (xii) Model Structure, documenting items such as Model structures, file naming structures, system coordination and Model standards;
 - (xiii) Project Deliverables, documenting the Models, documentations and/or other deliverables required by BIM Managers, Main Contractor or other Project Teams for BIM Use at different phases of the Project Lifecycle and the manner of delivery;
 - (xiv) Amendments, setting forth the scope, manner and conditions for amending the BIM Execution Plan, including any updates needed when new Team Member join the Project; and
 - (xv) any other information Project BIM Manager and/or Main Contractor from time to time consider necessary.
- (d) BIM Lead of each Project Team shall fully cooperate with and provide supports and/or information pertaining to its standard practice (including information exchange requirements) to BIM Managers and/or other BIM consultant as directed by the Main Contractor for creating and/or revising the BIM Execution Plan pursuant to Sub-Clause (b) above.

8. BIM INFORMATION EXCHANGE PROCESS MAP

- (a) Project Team Member shall deliver, receive, exchange or publish Models and other documents therewith in such manner and at such schedule and due dates (if any) as specified and agreed in the BIM Information Exchange Process Map.
- (b) Unless otherwise is instructed by the Main Contractor, Project BIM Manager or other BIM consultant as directed by the Main Contractor shall, based on the Employer's Information Requirement or any other Employer's instructions, prepare and provide the initial draft of the BIM Information Exchange Process Map with the assistance from the

Main Contractor and any Project Teams, within one (1) month after the commencement of the Project or within a period after the commencement of the Project as the Main Contractor at its sole discretion considers appropriate. The BIM Information Exchange Process Map shall be refined and developed throughout the Project Lifecycle, and may be from time to time be amended, revised or supplemented pursuant to Clause 15.

- (c) The BIM Information Exchange Process Map shall provide a basis to determine the main information exchanges during the key moments of the Project. However, Project Teams shall not rely on the schedule in this map as the only or sole communication with Main Contractor and/or Project Teams. Project Teams shall exchange information pursuant clause 11 as necessary to ensure an effective and efficient collaboration between Project Teams for the benefit of the Project.

9. BIM MANAGERS

- (a) Main Contractor may, at its sole and absolute discretion, appoint any persons or legal entities to act as Project BIM Manager, Design BIM Manager and Construction BIM Manager of the Project or any part thereof and may entrust to and confer upon such BIM Managers with such powers and duties as Main Contractor deems appropriate for the execution of such Project using BIM. Project Team Member shall, upon the appointment of BIM Managers, fully cooperate with such BIM Managers and provide all necessary supports and contributions to ensure the success and effective integration of BIM into the Project.
- (b) BIM Managers can be either the BIM Lead of any one of the Project Teams or an independent BIM professional with relevant practical construction knowledge and/or design coordination experience.
- (c) Without limiting the generality of the foregoing, Project BIM Manager shall be responsible for ensuring the full satisfaction of the Employer's Information Requirement by each Project Team. Design BIM Manager shall be responsible for the full compliance with any statutory requirements in relation to the registration of construction plans to government authorities. Construction BIM Manager shall ensure that the construction works are completed in accordance to the Models delivered by Project Teams with a view to ensure the proper implementation of BIM in Project.
- (d) Pursuant to Sub-Clause (c) above, BIM Managers shall further have, *inter alia*, the following obligations:-
 - (i) Project BIM Manager shall:-
 1. lead the process of creating and updating the BIM Execution Plan and BIM Information Exchange Process Map in accordance with the Employer's Information Requirement and other instructions from

Employer pursuant to Clause 15;

2. facilitate Project Teams to prepare and formulate with Main Contractor or other Project Teams on the details of exchange pursuant to Clause 11(d);
3. verify the compliance of the deliverables with the BIM Execution Plan;
4. define the Level of Development requirement for the BIM Use at different phases of the Project Lifecycle and procure such requirement to all Project Teams for their compliance and implementation when delivering Models;
5. deliver, coordinate, publish and verify any necessary configurations required for the integration of Models and other data;
6. take all necessary steps to ensure the data security of the Models and any transmission thereof pursuant to Clause 14;
7. setup and manage the Common Data Environment or any BIM database as a common platform facilitating the collaboration between Project Teams;
8. create, delete, modify and maintain any user accounts for the Project Teams to access the Common Data Environment or any BIM database;
9. manage the Models submission log and provide backup and restoration of the Models; and
10. schedule and hold regular BIM Meetings to coordinate the information exchange and resolve any design and construction issues including but not limited to clash detection and Model conversion.

(ii) Design BIM Manager shall:-

1. manage the quality of Models delivered by each Project Team pursuant to Clause 12 and ensure the compliance with the Information Exchange Protocol;
2. coordinate the updates and revisions of all Models, documentations and other contents therein;
3. comply with the Buildings Ordinance (Cap.123) and all other applicable Laws and statutory requirements for obtaining the approval and consent from the Building Authority for the commencement of the Project; and
4. determine the frequency of update necessary for each Model and record the revision history of the Models.

(iii) Construction BIM Manager shall:-

1. consolidate the CSD and CBWD from Project Teams and combine the drawings accordingly to identify any risk of conflict or crash on the 3D coordination;
2. coordinate the construction work of the contractors, sub-contractors and building service engineers to ensure the accurate implementation in accordance to the Models; and
3. compile and deliver to Main Contractor any Models, documentations and other contents therein for use in operations and facility management.

(e) Main Contractor and BIM Managers shall at any time during the Term give written

HKIU BIM AGREEMENT FOR DESIGN CONSULTANCY & SUB-CONTRACT (ver.1.0)

Copyright © 2017 HKIU All rights reserved

notice to Project Teams, upon the occurrence of any one or more of the following events:

- (i) appointment of BIM Managers;
- (ii) replacement or resignation of BIM Managers;
- (iii) change of address, e-mail address, telephone number or other communications particulars;
- (iv) amendment, revision or supplementation of BIM Execution Plan, Information Exchange Protocols and/or BIM Information Exchange Process Map pursuant to Clause 15;
- (v) receipt of any written notice from any third party on matters in relation to Project that reasonably likely have significant impact thereto; and
- (vi) any other changes of fact, event or circumstances in relation to Project.

10. BIM MEETING

- (a) Unless otherwise is agreed by both Parties in writing, during the Term of this Agreement the Project Team Member shall attend and take part in any BIM Meetings at such frequency specified in BIM Execution Plan or from time to time on an ad hoc basis as the Main Contractor considers appropriate (which shall normally not less than once a week) with the Main Contractor, BIM Managers, BIM Leads and any other nominees, and shall duly follow and observe any suggestions, comments and resolutions made or passed in those meetings.
- (b) The Project Team Member shall appoint its BIM Lead to duly and punctually attend each and every BIM Meeting as required pursuant to Sub-Clause (a) on the date and at the time and place to be determined and instructed by Project BIM Manager or Main Contractor. For the avoidance of doubt, Project Team Member participating the meeting by means of conference telephone, telepresence or other similar communication equipment whatsoever shall not constitute presence in person at such BIM Meeting.
- (c) The issues to be dealt with in any BIM Meetings may include but are not limited to:-
 - (i) the review and update of the BIM Execution Plan pursuant to Clause 15 throughout the Project Lifecycle;
 - (ii) the appointment, change and renewal of BIM Managers;
 - (iii) the provision, presentation and explanation of any Models to the Level of Detail specified in the BIM Execution Plan;
 - (iv) the coordination and incorporation of any Material in and into the Model;
 - (v) the detection of clash or conflict in the Model;
 - (vi) any details and particulars relating to the Project; and
 - (vii) other matters and issues to be from time to time raised by Project BIM Manager or Main Contractor.

- (d) Project BIM Manager shall keep or cause to be kept minutes of all decisions reached and all issues discussed at the BIM Meetings. Minutes may be kept in paper or electronic form and they shall be delivered to the Employer, Main Contractor, all Project Teams and other participants of such BIM Meetings on or before the next BIM Meeting.
- (e) BIM Meeting shall be held at such time and place as Project BIM Manager from time to time directs which the Project Team Member is obliged to attend. Unless otherwise agreed by the Main Contractor, Project BIM Manager shall give prior written notice of such BIM Meeting to all parties as are considered necessary by the Project BIM Manager to attend the BIM Meeting.

11. INFORMATION EXCHANGE

- (a) During the Term, Project Team Member shall cooperate with Main Contractor and other Project Teams in the performance and implementation of BIM in the Project and, subject to any confidentiality obligations and restriction set forth herein, shall exchange information, Models, description documents, metadata and other materials as necessary for the BIM Use pursuant to this Agreement.
- (b) Project Team Member shall deliver, receive, exchange or publish Models and other documents to BIM Managers, Main Contractor and/or other Project Teams as necessary to carry out the Project pursuant to the BIM Information Exchange Process Map in Schedule B, Information Exchange Protocols and any other instructions and requirement from time to time issued or adopted by BIM Managers or Main Contractor.
- (c) Upon the commencement of this Agreement, Project Team Member shall establish Information Exchange Protocols with each relevant Project Team that will deliver, receive, exchange or publish information, including but not limited to Models and other documentations, pursuant to this Agreement. The Information Exchange Protocol may be prepared in accordance to the template as annexed hereto as Schedule E.
- (d) Project BIM Manager shall facilitate Project Team Member, either as a Model Originator and a Model Receiver, to prepare and formulate with Main Contractor or other Project Teams on the details of exchange and record such details in an Information Exchange Protocols. All Information Exchange Protocols created herein shall be annexed to the BIM Execution Plan within one (1) month from the execution of this Agreement.
- (e) The Information Exchange Protocol shall define the content, format, frequency and manner on the delivery of Models and other documentations from Model Originator to Model Receiver. Project Team Member, either as a Model Originator and a Model

Receiver, shall duly follow the details of exchange as set forth in the Information Exchange Protocols when interacting and communicating with Main Contractor or other Project Teams. The Information Exchange Protocol may from time to time be amended, revised or supplemented pursuant to Clause 15.

- (f) All Models from time to time delivered, received, exchanged or published by Model Originator shall accompany with the following data exchange metadata and/or details with a view to verify and properly identify such Models:-
 - (i) Date of creation or modification;
 - (ii) Date of submission;
 - (iii) File type;
 - (iv) File name;
 - (v) File version;
 - (vi) LOD of such Model;
 - (vii) Encryption key or accessing instructions (if applicable); and
 - (viii) Other related description or information.
- (g) Unless otherwise is agreed by both Parties in writing, the ownership of the Models, documentations and other contents as provided by Model Originator, disregarding the manner of information exchange and whether such information is published to the Common Data Environment, shall remain with the Model Originator. Model Originator hereby assumes liabilities for, and shall fully accountable for, the use of such Models, documentations and other contents by Model Receiver or other Project Teams.
- (h) Model Receiver shall check the content of Models and any documentations received from Model Originator pursuant to any Information Exchange Protocol to verify that the exchange contains proper information and metadata. Model Receiver shall report to Project BIM Manager any unusual or inappropriate information content.

12. QUALITY OF MODELS

- (a) All Project Teams shall use all reasonable skill and proper care in preparing Models, documentations and other contents therein for the Project. Project Team Member hereby acknowledges the importance of the accuracy and quality of Models delivered, exchanged or published pursuant to this Agreement.
- (b) Model Originator shall ensure that all Models supplied to Main Contractor and other Project Teams pursuant to the BIM Use are of industry reasonable quality or the standard of quality as achieved in the Model Conversion Test or agreed in the Information Exchange Protocol. Model Receiver shall reasonably be expected to rely on

the completeness, accuracy and timeliness of such Models to perform and discharge of its obligations and liabilities for the Project.

- (c) Project BIM Manager shall establish Model standard and quality assurance procedures detailing the accuracy, format, software version and other required attributes of the drawings for each specific BIM Use to ensure the quality of the deliverables at different phase throughout the Project Lifecycle. Project BIM Manager shall make proper record of such standard and quality assurance procedures for such BIM Use in the BIM Execution Plan and bring such standard and quality assurance procedures to the attention of all related Project Teams. Project Team Member shall wholly follow such standard and quality assurance procedures.
- (d) The Model standard and quality assurance procedures shall include, but be not limited to:-
 - (i) definition and validation of testing or prototyping process to verify the Model;
 - (ii) validation of resource availability and capabilities to perform modelling activities; and
 - (iii) details of the information exchange to assure the unambiguousness of the Models and other documents attached therewith;
 - (iv) periodic review of the modelling procedures and information exchange; and
 - (v) documentation required for information exchange.
- (e) Project BIM Manager or Main Contractor may from time to time delegate to any Project Team, BIM Lead or any other third party consultant with some or all of the powers, duties and responsibilities in managing the quality of the Models for the Project.
- (f) Project Team Member shall be fully responsible in all respects for all production of Model carried out by its Representatives or sub-contractor that Project Team Member has or will employ (including a person employed at the Main Contractor's request), whether such work is carried out before, on or after the Execution Date.

13. MODEL CONVERSION REQUIREMENTS

- (a) Upon the commencement of this Agreement, Project Team Member shall, upon request from the Project BIM Manager and/or Main Contractor, perform Model Conversion Test for any or all Information Exchange Protocols to confirm the compatibility of their Model with the current BIM system pursuant to this Clause. Subject to the written consent from Main Contractor, the Model Receiver in an Information Exchange Protocol may waive the Model Originator from performing the Model Conversion Test for such information exchange.
- (b) Project Team Member shall have completed to the satisfaction of Main Contractor the

Model Conversion Test within 1 month from the Execution Date of this Agreement. Main Contractor has the sole and absolute discretion to waive the Project Team Member or extend the time limit for completing such Model Conversion Test by serving written notice to Project Team Member and BIM Managers.

- (c) Unless otherwise is instructed by Project BIM Manager, such Model Conversion Test shall be performed to verify the data delivered to Main Contractor or other Project Teams pursuant to an Information Exchange Protocol with the following verification tests:
- (i) Validation of the proper file type, naming convention, and appropriate software version;
 - (ii) Validation of Models against the quality standard set forth in Clause 12;
 - (iii) Visual inspection of Model to review general Model content;
 - (iv) Inspection of the coordinate system in Model to ensure that all Model have a common coordinate system;
 - (v) Software compatibility for Model Receiver to read and import the Model from Model Originator; and
 - (vi) Other verification tests as required by Project BIM Manager or Main Contractor.

14. INFORMATION SYSTEM AND DATA SECURITY

- (a) Subjected to the authorization by the Project BIM Manager, Project Team Member is authorized to access to the Common Data Environment (CDE) or any BIM database and perform the data exchange obligations *bona fide* for the benefit of the implementation of BIM in Project pursuant to this Agreement during the Term subject to the terms and conditions herein.
- (b) Project Team Member shall not use the CDE or any Models, documentations and other contents therein in any manner or for any purpose other than expressly permitted herein.
- (c) Project Team Member shall not use the CDE or any Models, documentations and other contents therein in any manners that could damage, disable, overburden, or impair any of the Models, or networks, or interfere with the Main Contractor's, Project Team's or any third party's use of the CDE or any Models, documentations and other contents therein.
- (d) Except as expressly authorized by and subject to the terms and conditions of this Agreement, Project Team Member and its Representative may not gain or attempt to gain unauthorized access to the CDE or any Models, documentations or any other computer system as restricted by the Main Contractor or Project BIM Manager through hacking, password mining or any other means.

- (e) Nothing herein or otherwise, including but not limited to Project Team Member's use of the CDE or any Models, documentations and other contents therein, Main Contractor has not granted or is deemed to have granted the Project Team Member any proprietary or other rights in relation to any Intellectual Property or proprietary or confidential information of the Main Contractor or other related third parties except otherwise explicitly agreed by the Main Contractor in writing.
- (f) Except as expressly authorized by and subject to the terms and conditions of this Agreement, no Models, documentations and other contents in the CDE may be copied, reproduced, uploaded, posted, transmitted or distributed in any way. In particular, the use or reproduction of any such material or information on any other website, internet, intranet, computer environment or other media whatsoever, both tangible and non-tangible, is strictly prohibited.
- (g) Project Team Member is solely responsible for maintaining the confidentiality and security of the CDE and shall immediately notify Main Contractor and Project BIM Manager of any compromise, unauthorized access or security breach of the CDE. Main Contractor shall in no event be held responsible for any losses arising out of any compromise, unauthorized access or security breach of the CDE and Project Team Member shall fully indemnify Main Contractor and hold Main Contractor harmless in case of any such situations thereof.
- (h) Project Team Member and its Representatives shall not allow or authorize and take all necessary steps to prevent any third parties to access or use the CDE or any Models, documentations and other contents therein through the Project Team Member's access or otherwise without the written consent of Main Contractor. In any event, Project Team Member shall be solely and fully responsible for any access or use by any third parties to and of the CDE or any Models, documentations and other contents therein through its access to the CDE.

15. AMENDMENTS

- (a) Project BIM Manager may revise or supplement the BIM Execution Plan, Information Exchange Protocols and/or BIM Information Exchange Process Map throughout the Project Lifecycle when:-
 - (i) a new Project Team, including but not limited to consultant, engineer, contractors or sub-contractors, is appointed and/or assigned with a role in the Project;
 - (ii) there is a revision in the Employer's Information Requirement;
 - (iii) there is a substantive deviation on the conditions from the initial plan; or
 - (iv) Project BIM Manager considers necessary and appropriate.

- (b) Project BIM Manager may, subject to Sub-Clause (a) above, at its sole and absolute discretion amend, revise or supplement the BIM Execution Plan (including any Information Exchange Protocols) and/or BIM Information Exchange Process Map by serving not less than seven (7) days written notice on all relevant Project Teams, and such changes shall become effective immediately upon the expiry of the said seven (7) days period.
- (c) Employer and Main Contractor may from time to time at its sole and absolute discretion amend, revise or supplement the BIM Execution Plan (including any Information Exchange Protocols), BIM Information Exchange Process Map and/or Employer's Information Requirement by serving not less than seven (7) days written notice on Project BIM Manager and all Project Teams, and such changes shall become effective immediately upon the expiry of the said seven (7) days period.
- (d) Project Teams (including Project Team Member) and the corresponding BIM Leads may from time to time propose to Project BIM Manager any amendments, revisions or supplements to the BIM Execution Plan (including any Information Exchange Protocols) and/or BIM Information Exchange Process Map by serving written notice on Project BIM Manager and Main Contractor, and such changes shall become effective immediately upon the expiry of seven (7) days period from the written approval of Project BIM Manager or Main Contractor.
- (e) No amendment, revision or supplement to the BIM Execution Plan (including any Information Exchange Protocols) or BIM Information Exchange Process Map by Project Teams shall be allowed, effected, deemed to be allowed or deemed to be effected without the prior written approval of Project BIM Manager or Main Contractor.

16. TERM AND TERMINATION

- (a) This Agreement commences on the Effective Date and continues thereafter to be valid when the Assignment Agreement is valid, unless it is terminated earlier pursuant to the terms and conditions herein.
- (b) Main Contractor may terminate this Agreement at any time during the term pursuant to Clause 16 without cause or compensation by serving not less than one (1) month written notice on Project Team Member. Project Team Member shall indemnify Main Contractor and hold Main Contractor harmless on demand against any losses, damages, costs (including legal fees) and expenses incurred by Main Contractor howsoever arising from any third-party claims or suits of any nature whatsoever related or incidental to such termination of this Agreement.
- (c) Main Contractor may, without prejudice to its other rights, also terminate this

Agreement, forthwith by serving written notice on the Project Team Member if:-

- (i) project team member fails to complete the Model Conversion Test as specified by Clause 13 within 1 month from the Execution Date;
 - (ii) Assignment Agreement between the Parties is terminated;
 - (iii) the Project Team Member, its Representatives is convicted by a court of Law in Hong Kong or any other jurisdictions for corruption, money laundry or other unlawful or illegal activities in relation to this Agreement or any other agreement that the Project Team Member may have with the Main Contractor;
 - (iv) [Client may add their own termination clause for this Agreement here.]
 - (v) the Project Team Member engages in any conduct which Main Contractor reasonably believes may be prejudicial to the Project or the business of the Employer / Main Contractor generally.
- (d) A Party, without prejudice to its other rights, may also terminate this Agreement, forthwith by serving written notice on the other Party upon:-
- (i) any material breach of this Agreement committed by the other Party which is non-remediable or the failure of the other Party to remedy other material breach of this Agreement within thirty (30) days from the written notification by a non-breaching Party regarding such breach;
 - (ii) an Insolvency Event in respect of the other Party occurs;
 - (iii) in case of suspension, cancellation or revocation of the requisite approvals, licenses, authorizations and permits from the concerned governmental; regulatory bodies, that are necessary for the purposes of this Agreement, including and not limited to execution and performance and discharge of the obligations and liabilities thereby imposed; and
 - (iv) pursuant to Clause 22 by the reason of a Force Majeure Event.
- (e) Upon termination, the Project Team Member shall deliver to Main Contractor in accordance to the agreed terms and conditions all Models or documentations which have been created and are in the procession of the Project Team Member that belongs to Main Contractor on or before the date of termination. For all unfinished Models, Project Team Member shall, at the request of Main Contractor, deliver or make available such partially completed Models or documentations to Main Contractor, without prejudice to any other rights and remedies available to Main Contractor

hereby, in law or otherwise.

17. INTELLECTUAL PROPERTY RIGHTS

- (a) Unless otherwise expressly specified in this Agreement already signed among any of the Parties:-
- (i) All Intellectual Property Rights owned by a Party before the Effective Date will remain the property of that Party during and after this Agreement unless otherwise agreed in writing and duly signed by all the affected Parties.
 - (ii) The rights in any Intellectual Property created, developed or made pursuant to this Agreement during the Term shall upon their being created be owned by Main Contractor. Main Contractor hereby grants to the Project Team Member who actually (solely or jointly with any other parties) create any Intellectual Property a royalty-free but non-transferable, non-exclusive and non-sub-licensable licence to use such Intellectual Property during the Term for the sole purpose of perform and discharge the Project Team Member's obligations and liabilities under this Agreement.
 - (iii) Unless otherwise accepted by Main Contractor in writing, each Project Team Member hereby warrants that it is the author or inventor of the Intellectual Properties created or to be created by the Project Team Member pursuant to this Agreement or has otherwise acquired the requisite right to assign or otherwise pass the ownership thereof to Main Contractor or other Project Teams pursuant to this Agreement.
 - (iv) Project Team Member shall defend or settle at its expense any suit, proceeding, or assertion of a third party against Main Contractor or its Representatives based upon a claim that of the Intellectual Properties created or to be created by the Project Team Member pursuant to this Agreement infringe any valid copyright, trade secret, or trademark, provided that:
 - 1. Main Contractor promptly notifies the Project Team Member, in writing, of the suit, claim or proceeding or a threat of suit, claim or proceeding; and
 - 2. at the Project Team Member's reasonable request and expense, Main Contractor provides the Project Team Member at Project Team Member's costs with reasonable assistance for the defense of the suit, claim or proceeding.
- (b) Project Team Member hereby undertakes, upon receipt of written notice from Main Contractor, to sign (or cause to be signed) all further documents, do (or cause to be

done) all further acts, and provide all assurances as may reasonably be necessary or desirable to give effect to this Clause.

- (c) Project Team Member shall not reproduce, modify or reverse engineer any deliverables, Models, documentations or any portion thereof under this Agreement without the prior written consent of Main Contractor. The Project Team Member further commits that it will not, and will not permit or assist any third party to, reverse engineer all or any part of any of such deliverables, Models, documentations or any portion thereof, for use, sale or any other purposes.

18. INDEMNITY

- (a) Without prejudice and in addition to any indemnities and similar provisions in the body of the Agreement, Project Team Member agrees to release, indemnify, defend, protect and hold harmless Employer, Employer's Representatives, Main Contractor, Main Contractor's Representatives, other Project Teams, other Project Teams' Representatives, sub-contractors and sub-contractors' Representatives ("**Indemnified Persons**"), from and against, and assumes liability for, the following:
 - (i) any injury, loss or damage to any person, tangible property or facilities of any third person or entity or Indemnified Persons (including reasonable attorneys' fees and costs) to the extent arising out of or resulting from either: (i) the acts or omissions, negligence or otherwise, of Project Team Member or its Representatives, sub-contractors, licensees, invitees or vendors; or (ii) the acts and omissions of Project Team Member constituting a default under this Agreement;
 - (ii) any claims, liabilities or damages arising out of any violation by the Project Team Member of any regulation, rule, statute or order of any governmental agency, court or body in connection with Project Team Member's performance or discharge of its duties or liabilities under the Agreement; and
 - (iii) any claims, liabilities or damages arising out of any interference with or infringement of the rights of any third party in connection with or as a result of Main Contractor's use, other Project Team's use or the Project Team Member's provision of any information, documents, products, services and/or deliverables under the Agreement, including any infringement of the Intellectual Property Rights of any third party or any interference with the any third party or their assets or equipment.

19. CONFIDENTIALITY

(a) Without prejudice to any confidentiality and non-disclosure agreement and similar agreements (if any) entered between the Parties:-

(i) All Confidential Information provided by a Party ("**Disclosing Party**") to another Party ("**Receiving Party**") shall be used solely for the purpose for which it is supplied and shall be treated by the Receiving Party as secret and fully confidential and the property of the Disclosing Party.

(ii) Each Party shall retain in confidence and not disclose to any third party the Confidential Information of the other Party, and will make no use of the Confidential Information except for the purpose and under the terms and conditions of, and during the term of this Agreement, unless otherwise agreed in writing between the Parties. Provided that none of the Parties shall have any obligation to maintain the confidentiality of any information that:-

3. was or becomes generally available to the public, other than as a result of disclosure by the Receiving Party in violation of the terms of this Agreement;
4. becomes known to the Receiving Party, without an obligation of confidentiality, from a source other than the Disclosing Party;
5. was in the Receiving Party's possession, without an obligation of confidentiality, prior to receipt from the Disclosing Party;
6. is independently developed by the Receiving Party without the use of the Disclosing Party's Confidential Information; or
7. is compelled to be disclosed by court order, operation of Law, governmental authority, regulatory body or stock exchange.

(b) Each Party shall maintain the confidentiality of the other Party's Confidential Information using, at a minimum, the same degree of care as is used by that Party for its own Confidential Information and trade secrets of like importance, provided the degree of care is reasonably calculated to prevent inadvertent disclosure or unauthorized use of the Confidential Information. For the avoidance of doubt, neither Party shall use any Confidential Information obtained through this Agreement to offer services to a third party which offers or intends to offer services which compete with the business of any of the other Parties.

(c) Neither Party may publicize or disclose the contents or subject matter of this Agreement without the prior written consent of all the other Parties unless the disclosure is required by a governmental authority, regulatory body or stock exchange

in accordance with the applicable laws or regulations.

20. ENTIRETY OF AGREEMENT

- (a) This Agreement including all Schedules therein from time to time duly issued by either Parties (if any) represents the entire understanding between the Parties in relation to the matters dealt with herein and supersedes all previous covenants and representations, written or oral, made by one Party to the other.

21. SEVERABILITY

- (a) If any term, provision, covenant or condition of this Agreement is determined to be invalid, void, or unenforceable by any court, arbitrator or reviewing authority of competent jurisdiction, the rest of this Agreement will remain in full force and effect to the extent permitted by applicable Law and will in no way be affected, impaired or invalidated, provided that the intent and purpose of the Parties is not materially frustrated thereby. In the event of any such determination, the Parties agree to negotiate in good faith to modify this Agreement to fulfil as closely as possible the original intents and purposes hereof.

22. FORCE MAJEURE

- (a) If either Party is prevented from performing any of its obligations under this Agreement (in each case, in whole or in part) by reason of a Force Majeure Event (“**Affected Party**”), the Affected Party will, immediately notify each of the other Party (each an “**Unaffected Party**”) in writing of the events and circumstances constituting the Force Majeure Event and shall keep all the Unaffected Parties regularly informed of the progress in resolving the Force Majeure Event.
- (b) The Affected Party must take all reasonable steps to minimise the adverse effects of the Force Majeure Event on the performance of its obligations under and this Agreement.
- (c) Subject to the Sub-Clause (d) below, neither Party shall be treated as being in breach of this Agreement (but only to the extent it is necessarily prevented from performing any of its obligations as a result of the Force Majeure Event), or otherwise liable to the other, by reason of any delay in performance, or non-performance of any of its obligations due to the Force Majeure Event except that any failure to perform its obligation by a sub-contractor or supplier to a Party shall not be considered a Force Majeure Event of that Party unless such failure by the sub-contractor or supplier was due to a Force Majeure Event.

- (d) If the Affected Party fails to comply with its obligations under Sub-Clauses (a) or (b) above, then no relief for a Force Majeure Event, including the provisions of Sub-Clause (c) above, shall be available to it and the obligations of all the Parties will continue in full force and effect.
- (e) If the Force Majeure Event continues for longer than thirty (30) days, then each Unaffected Party may at the expiry of such thirty (30) days period, provided the Force Majeure Event is still subsisting, terminate this Agreement forthwith by serving written notice on the Affected Party and the other Unaffected Parties (if any).

23. NO IMPLIED WAIVERS

- (a) No failure or delay by any Party in exercising any right, power or remedy under this Agreement shall operate as a waiver thereof, nor shall any single or partial exercise of the same preclude any further exercise thereof or the exercise of any other right, power or remedy. Without limiting the foregoing, no waiver by any Party of any breach of any provision of this Agreement shall be deemed to be a waiver of any subsequent breach of that or any other provision in this Agreement.

24. COMPLIANCE WITH OTHER AGREEMENTS

- (a) Project Team Member and Main Contractor mutually represent and warrant that to the best of their knowledge the execution and delivery of this Agreement and the performance of any obligations in this Agreement hereunder will not, as of the date of this Agreement or with the passage of time, conflict with, cause a breach of or constitute a default of the terms under any agreement to which either Project Team Member or Main Contractor is a party or by which such Party may be bound.

25. SURVIVAL

- (a) Clauses of this Agreement which are either expressed to survive the termination of this Agreement or, from their nature or context, are apparently intended to survive such termination shall remain in full force and effect notwithstanding termination of this Agreement.

26. THIRD-PARTY RIGHTS

- (a) No one other than a party to this Agreement, their successors and permitted assignees (i) shall have any right to enforce; or (ii) whose consent is required to amend, any of the terms and conditions of this Agreement under the Contracts (Right of Third

Parties) Ordinance (Cap. 623) or otherwise.

27. GOVERNING LAW

- (a) This Agreement including these terms and conditions, is governed by the Laws of Hong Kong.

28. DISPUTE RESOLUTION

- (a) Any dispute, controversy or claim which may arise between any of the Parties, out of, or in relation to, or in connection with this Agreement and/or any Equipment Lease Contracts, or any breach hereof, shall be first settled by escalating the matter to the senior management of the Parties.
- (b) If the dispute, controversy or claim between any of the Parties in connection with this Agreement and/or any Equipment Lease Contracts cannot be amicably settled by the Parties within fourteen (14) days from the date that the matter shall have been escalated pursuant to Sub-Clause (a) above, each Party shall then, as a last resort be entitled to resolve such dispute, controversy or claim pursuant to Sub-Clause (c) below.
- (c) Any dispute, controversy, difference or claim arising out of or relating to this Agreement and/or any Equipment Lease Contracts, including the existence, validity, interpretation, performance, breach or termination thereof or any dispute regarding non-contractual obligations arising out of or relating to it shall be referred to and finally resolved by arbitration administered by the Hong Kong International Arbitration Centre (“HKIAC”) under the HKIAC Administered Arbitration Rules in force when the notice of Arbitration is submitted. The Law of this arbitration Clause shall be Hong Kong law. The seat of arbitration shall be Hong Kong. The number of arbitrators shall be one. The arbitration proceedings shall be conducted in English.

SCHEDULE A

EMPLOYER'S INFORMATION REQUIREMENT

[Employer's Information Requirement repeated here with or without modifications]

Copyright © 2017 HKIUS

SCHEDULE B

BIM INFORMATION EXCHANGE PROCESS MAP

[Process map to be inserted by the Main Contractor or the Employer]

Copyright © 2017 HKIUS

SCHEDULE C

LEVEL OF DEVELOPMENT

LOD 100: Conceptual design

The objects have a geometrical representation using a symbol or a generic representation. The global model can be used for solar and early energy analysis.

LOD 200: Design Development

The objects have a geometrical representation using a generic system, object, or assembly. Approximated information related to quantities, size, shape, location and orientation are also determined. The global model can be used for general performance analysis and calculations.

LOD 300: General Construction documents

The objects have an accurate geometrical representation with a specific system, object or assembly. Information related to quantities, size, shape, location and orientation are also determined. The global model has enough information to provide precise analysis and simulations on every element and system. Furthermore, tasks related to collaboration, such as coordination and clash detections, can be performed.

LOD 350: The compromise

The objects have an accurate geometrical representation with a specific system, object or assembly. Information related to quantities, size, shape, location, orientation and interfaces with other building systems (= LOD300 + interfaces) are also determined. The global model is particularly suited for the use of the model to support the constructive process. It has the advantage of being easier to develop than the LOD400 but providing more useful information than LOD300.

LOD 400: Fabrication information

The objects have an accurate geometrical representation with a specific system, object or assembly. Information related to quantities, size, shape, location and orientation are with detailing, fabrication, assembly, and installation information. The global model can be used for direct production and construction scheduling.

LOD 500: As-built model

The objects are a field verified representation in terms of size, shape, location, quantity, and orientation. It is the as-built version of the BIM. In these models, elements are represented with all technical information needed for maintenance and procurement.

SCHEDULE D

BIM EXECUTION PLAN

If the BIM Execution Plan is created, Main Contractor may annex the current version of the BIM Execution Plan with the version identification number here.

Copyright © 2017 HKIUS

SCHEDULE E

TEMPLATE OF THE INFORMATION EXCHANGE PROTOCOL

Information Exchange No.:			
Model Originator:	e.g.: Civil Engineer	Software used:	e.g.: Civil 3D
Model Receiver:	e.g.: MEP	Software used:	e.g.: Revit
File Format(s):	e.g.: DWG/RVT		
Entities / Objects :	e.g.: Pline / 3DSolid / PipeNetwork		
CDE	e.g.: dRoW		
Receiver's Request	Pipe network in Revit format		
Author's commitment	Agreed / Agreed with conditions:		
Type	One-way (continuously updated) / Two-way (synchronization needed)		
Time Required			
Agreed Procedures:	1 st time Procedure: Subsequent Procedure:		
Tested	Pass / Fail (Reason: _____)		
Signed by authorized signatory of the BIM Managers:			
Signed by authorized signatory of the Model Originator:			
Signed by authorized signatory of the Model Receiver:			

SCHEDULE F

TEMPLATE OF THE CSD INFORMATION EXCHANGE PROTOCOL

CSD Information Exchange No.:			
Author: AC		Software used:	
Author: PL		Software used:	
Author: FS		Software used:	
Author: EL		Software used:	
Author: ELV		Software used:	
Author: GS		Software used:	
Receiver:	e.g.: BIM Team	Software used:	e.g.: Revit
File Format(s):	e.g.: DWG/RVT		
Entities / Objects :	e.g.: Pline / 3DSolid / PipeNetwork		
CDE	e.g.: dRoW		
Receiver's Request	Pipe network in Revit format		
Author's commitment	Agreed / Agreed with conditions:		
Type	Two-way (synchronization needed)		
Time Required			
Agreed Procedures:	1 st time Procedure: Subsequent Procedure:		
Tested	Pass / Fail (Reason: _____)		
Signed by authorized signatory of the BIM Managers:			
Signed by authorized signatory of the Receiver:			

SCHEDULE G

BIM USE

The objective and uses of BIM are defined below:

Existing Conditions: The process of creating a Model (geometry and information) by surveying the existing site conditions. Such model may be developed by laser scanning, photogrammetry, conventional survey methods and other record drawings.

Design Authoring: The process of using BIM software to create and develop Models of the Project, including a database of properties, quantities, means and methods, costs and schedules. The architect, engineer, contractor and sub-contractor shall use the authoring tools to produce plan, elevation, section, detail, fabrication and shop drawings.

Design Review: The process for Project Teams to review a Model, images from a Models or animated walk-throughs of the Project or part of the Project, provide feedback and validate numerous design aspects such as meeting the EIR and previewing spaces and layouts in 3D.

Site Analysis: The process of using BIM and GIS tools to evaluate a site for determining the most optimal location, position and orientation for the Project. Such analysis may include master planning, sun and shadow studies, daylight analysis and solar envelope analysis.

3D Coordination: The process of using software tools to identify conflicts or clashes by analysing Models and Combined Service Drawing of the Project or part of the Project.

Cost Estimation: The process of estimating the cost for the Project by extracting accurate quantity takeoff from Models by quantity surveyors.

Engineering Analysis: The process of using Models to analyse and assess different design options to determine the most effective engineering solution to meet design codes and client requirements.

Facility Energy Analysis: The process of using a building energy simulation programme with a model to conduct energy assessments of a project design to optimize the design to reduce life-cycle costs.

Sustainability Evaluation: The process in which a project model is evaluated based on HKBEAM, LEED or other sustainable criteria.

Space Programming: The process in which a spatial program is used to efficiently and accurately assess a design layout model in regard to client spatial requirements. The model may be analysed for compliance with building codes and regulations.

Model-based 4D Scheduling: The process of linking a programme to a Model which is used to show the construction sequence and space requirements on a construction site.

Digital Fabrication: The use of Models to facilitate the fabrication of construction materials or assemblies such as sheet metal fabrication, structural steel fabrication and pipe cutting.

Site Utilization Planning: The Model shall include permanent and temporary facilities on site for all of the construction phases.

3D Control and Planning: The process that utilizes a Model to layout project elements such as the position of walls using a total station with survey points preassigned in the Model.

As-Built Modelling: The process of preparing an accurate record of the physical conditions and assets of the Project. The As-Built Model should contain information relating to the architectural, structural, civil and MEP elements with links to operation, maintenance, and other data.

Project Systems Analysis: The process measures how the Project performs compared to the design specifications.

Maintenance Scheduling: The process for planning and managing the maintenance of the Project structure, building fabric and equipment during the operational life of a facility.

Space Management and Tracking: The As-Built Model can be used to assess, manage and track spaces and associated resources within the Project.

Asset Management: The process of bi-directionally linking an As-Built Model to an organized building management system which can be used to maintain and operate a facility and its assets. The assets may include buildings, infrastructure, systems and equipment which may be operated, maintained and upgraded.

Unit 209, 2/F, Favor Industrial Center,
2-6 Kin Hong Street, Kwai Chung,
N.T., H.K.

Tel: (+852) 2967 0000

Fax: (+852) 2618 4500

Website: <http://www.hkius.org.hk>

Electronic copies of this document is available
upon request by email to info@hkius.org.hk



Hong Kong Institute of Utility Specialists