CIC/BIM Pro
Building Information Model
(BIM) Protocol
University of Cambridge

University of Cambridge
Estate Management
Greenwich House

Madingley Road
Cambridge
CB3 0TX
United Kingdom

UNIVERSITY OF
CAMBRIDGE

Insert Project Here

Rev	Originator	BIM Approved	Date
1.0	C Hinton	BIM Strategy Group	26/06/15
1.1	C Hinton	Amended Appendix 1	03/09/15
1.1.1	C Hinton	EM Address Change	03/02/16

I confirm agreement for and on behalf of
………………………………………………………………………….

to conform to this protocol document for the production of all project related data for the *Insert Project Here.*

………………………………………………………………….
(signed)

………………………………………………………………….
(name)

………………………………………………………………….
(title)

University of Cambridge

BIM Document Suite

1

Employer's Information Requirements (EIRs) for University of Cambridge

University of Cambridge
Estate Management
Greenwich House
Madingley road
Cambridge
CB3 0TX
United Kingdom

UNIVERSITY OF CAMBRIDGE

Insert Project Here

1: Employer's Information Requirement (EIR):

To provide an outline definition of Employers Information Requirements (EIRs) to support the implementation of Building Information Modelling (BIM)

4

CIC/BIM Pro
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Insert Project Here
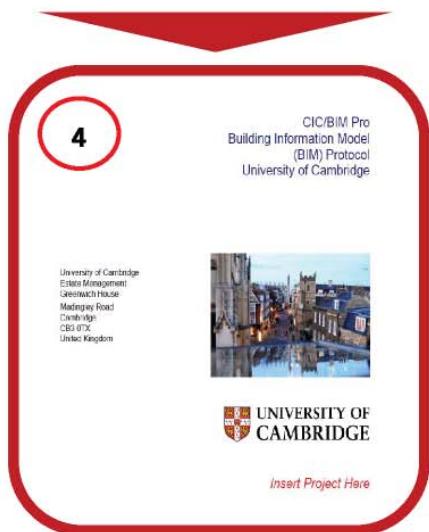
2: BIM Capability Assessment:

Demonstrate supplier competency to deliver BIM Projects.

2

Capability Assessment Form
University of Cambridge

University of Cambridge
Estate Management
Greenwich House
Madingley Road
Cambridge
CB3 0TX
United Kingdom

UNIVERSITY OF CAMBRIDGE

Insert Project Here

4: CIC BIM Protocol:

The Protocol identifies the Building Information Models that are required to be produced by members of the Project Team. To be appended to appointment contracts.

3

Building Information Modelling (BIM) Execution Plan
For University of Cambridge

University of Cambridge
Estate Management
Greenwich House
Madingley Road
Cambridge
CB3 0TX
United Kingdom

UNIVERSITY OF CAMBRIDGE

Insert Project Name
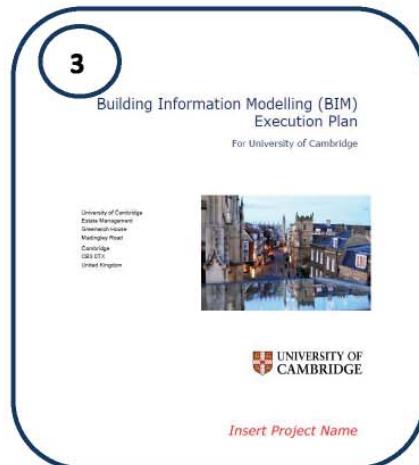
3: BIM Execution Plan (BEP):

The Building Information Modelling Execution Plan (BEP) is a core approved document which defines the BIM strategy and processes for the successful completion of a Level 2 BIM project.

BUILDING INFORMATION MODEL (BIM) PROTOCOL

CIC/BIM Pro
first edition 2013

Standard Protocol for use in projects using
Building Information Models
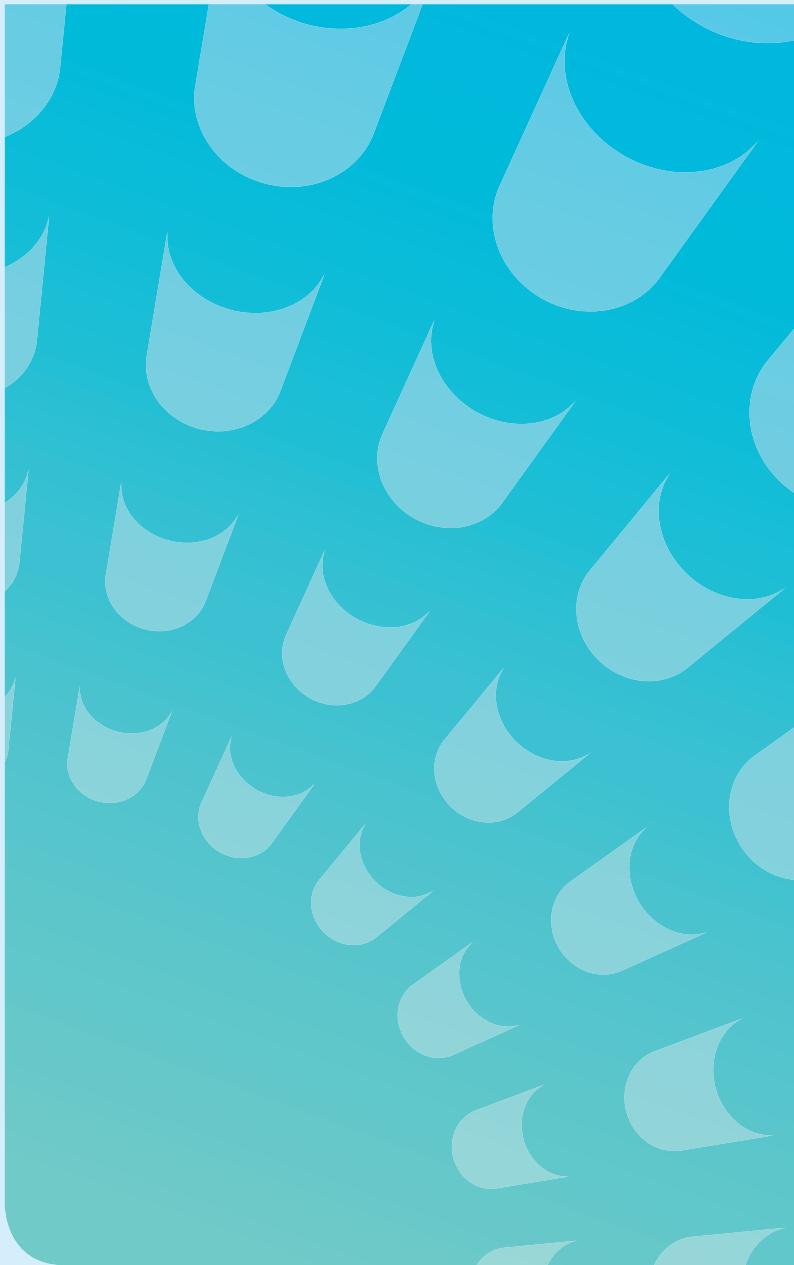
Building Information Modelling (BIM) Task Group

The CIC acknowledges the technical input and leadership provided by the BIM Task Group in support of the production of CIC BIM documentation.

The publisher makes every effort to ensure the accuracy and quality of information when it is published. However, it can take no responsibility for the subsequent use of this information, nor for any errors or omissions that it may contain.

Construction Industry Council

BUILDING INFORMATION MODEL (BIM) PROTOCOL

CIC/BIM Pro
first edition 2013

Standard Protocol for use in projects using Building Information Models

1. Introduction

This BIM Protocol has been commissioned by CIC as part of its response to the UK Government BIM Strategy. The Protocol has been drafted for use on all common construction contracts and supports BIM working at Level 2.

The Protocol identifies the Building Information Models that are required to be produced by members of the Project Team and puts into place specific obligations, liabilities and associated limitations on the use of the models. The Protocol can also be used by clients to require the adoption of particular ways of working – such as the adoption of a common naming standard.

The Protocol adopts many of the core principles used in the preparation of the CIC Consultant Appointment and Schedules of Service, particularly that project teams perform better when there is clear responsibility for action and deliverables.

This introduction and guidance sets out the principles behind the drafting of the Protocol and provides guidance with regards to its completion and use.

2. General principles adopted in the drafting of the Protocol.

The following principles have informed the drafting of the Protocol:

- The Protocol makes the minimum changes necessary to the pre-existing contractual arrangements on construction projects;

- The Protocol ensures that there is an obligation on parties to provide defined elements of their works/services using models;

- The Protocol is a contractual document which takes precedence over existing agreements; and;

- The Protocol is flexible and should be suitable for use on all Level 2 BIM projects.

3. How the Protocol works

3.1 Objective of the Protocol

The primary objective of the Protocol is to enable the production of Building Information Models at defined stages of a project. The Protocol is aligned with Government BIM Strategy, and incorporates provisions which support the production of deliverables for 'data drops' at defined project stages. The Protocol also provides for the appointment of an 'Information Manager'.

A further objective of the Protocol is that its use will support the adoption of effective collaborative working practices in Project Teams. The encouragement of the adoption of common standards or working methods under PAS 1192-2 are examples of best practice that can be made an explicit contractual requirement under the Protocol.

All parties involved in the use, production or delivery of Models on the Project (the "Project Team Members") are required to have a BIM Protocol appended to their contracts. This will ensure that all parties producing and delivering Models adopt any common standards or ways of working described in the Protocol and that all parties using the Models have a clear right to do so. The responsibility for ensuring that Protocols are in place is with the Employer named in each agreement.

3.2   Incorporation into contracts

The Protocol is intended to be expressly incorporated into all direct contracts between the Employer and the Project Team Members.

- On a project with separate appointments, it will be appended to the appointments of members of the design team and to the building contract.

- On a Design and Build project, it will initially be appended to the contracts of the design team entered into prior to appointment of the Contractor. When the Contractor is appointed, the Building Contract should make him responsible for providing the models and should include the Protocol. If all consultants are novated, the Protocol appended to the novated appointments will allocate responsibility between members of the design team. If some consultants are not novated, careful consideration should be given as to how the responsibilities under the Protocol will be allocated following novation.

- Project Team Members should arrange for the Protocol to be incorporated into sub-contracts which concern the use, production or delivery of Models to the extent required to ensure that the Project Team Member complies with the Protocol. This will also ensure the sub-contractors have the benefit of and are subject to the licences in clause 6.

The text of a model amendment which expressly incorporates the Protocol into direct contracts is included as the Model Enabling Amendment. The text of exemplar amendments for common contracts and appointments are published on the BIM Task Group website, www.bimtaskgroup.org.

3.3   Permitted Purposes

A key area of concern for many information providers is that the wider use of data-rich BIM will make it harder to protect IPR. The Protocol uses a general concept of 'Permitted Purpose' to define the licenced uses of Models, rather than stating the specific uses of each model.

The Permitted Purpose is defined as: "*a purpose related to the Project (or the construction, operation and maintenance of the Project) which is consistent with the applicable Level of Detail of the relevant Model (including a Model forming part of a Federated Model) and the purpose for which the relevant Model was prepared*".

In order for the definition to operate as intended it is important that the Levels of Detail are defined appropriately in Appendix 1 (Levels of Detail and the Model Production and Delivery Table).

3.4   Treatment of Intellectual Property

In light of industry concerns in respect of IPR and the increased collaboration involved in a BIM project, clause 6 of the Protocol clearly sets out the IPR provisions required to enable the Models to be used as intended and to protect the rights of the Project Team Members against infringement.

Clause 6.2 states that 'any rights (including but not limited to any copyright)....shall remain vested in the Project Team Member'. If the Employer wants to own all Project IPR, then the Protocol will need to be amended and further changes may be required in the Project Team Agreements. The existing contractual arrangements will govern the copyright position in respect of other documents produced and delivered under the Agreement.

Clause 6.3 grants a licence to the Employer in respect of the Material (the electronic information contained in the Models produced by the Project Team Member) for the Permitted Purpose and clauses 6.6 and 6.7 grant a licence and sub-licence from the Employer to the Project Team Member in respect of other information contained in Models (including material provided by the Employer or on his behalf for inclusion in the Project Team Member's Models) for the Permitted Purpose. This means that a Project Team Member will be granted a licence, via the Employer, to use the Models produced by an Other Project Team Member, subject to the terms of clause 6 and vice versa.

The licences in the Protocol include the right to grant a sub-licence on identical terms to members of the Project Team and their sub-contractors. If the Employer requires a licence to be granted to other parties in respect of the Material it will need a separate agreement from the Project Team Member. This may be in the form of a collateral warranty in favour of that third party, or the Agreement could expressly extend the benefit of the Protocol to a third party under the Contracts (Rights of Third Parties) Act 1999.

The licence granted by the Project Team Member can be revoked for non payment to the extent that any licence in the Agreement can be and the sub-licence from the Employer is subject to any right of revocation in the licence granted to the Employer.

In order to protect the Project Team Member's rights, the licences do not include the right to amend the Material/Models without consent (except in limited circumstances) or the right to

reproduce any proprietary work contained in the Material/Models for any extension of the Project. If a wider licence is required additional specific consent could be provided by the Project Team Member.

Clauses 6.9 and 6.10 represent that the Project Team Member and the Employer have, or will procure the right to grant the licences and sub-licences in clause 6. It is important all parties keep a clear audit trail when obtaining a Model, or part of the Model, from a third party.

3.5   Electronic Data Exchange

The Protocol aims to remove the need for separate Electronic Data Exchange Agreements between the Project Team Members by addressing the principal risks associated with the provision of electronic data, in particular the risk of corruption following transmission. Clause 5.1 makes clear that, without prejudice to its obligations under the Agreement, the Project Team Member gives no warranty as to the integrity of electronic data. Clause 5.2 excludes liability for any corruption or unintended amendment etc. of the electronic data which occurs after the transmission of a Model by the Project Team Member, unless caused by a failure to comply with the Protocol.

3.6   Definition of the Models covered by the Protocol

Models which are scheduled in Appendix 1, the Model Production and Delivery Table (MPDT), are subject to the Protocol. Models which are not listed in the MPDT do not benefit from the provisions of the Protocol. Clause 4 introduces an obligation on the Project Team Member to produce and deliver the Models in respect of which it is identified as the "Model Originator" in Appendix 1. The completion of the MPDT is described in more detail in section 6. The MPDT should be drafted accurately, as it is a contractual document, and also because it defines the Models that Project Team Members are expected to produce for a particular stage or data drop and the Level of Detail that is required at this stage.

3.7   Change management

The Protocol and appendices are contract documents. Any change to the Protocol or appendices will result in a change to the contract terms. Any variations to the MPDT or Protocol should be subject to the Change Management procedure under the Agreement, as they may be a change to the scope of services/works. As the same Protocol and appendices are attached to all Project Team Agreements, Employers should try and ensure such procedures are consistent across all Project Team Agreements if possible.

3.8   Liability for use of Models

Given the concerns associated with the wider use of data on BIM Projects clause 7 excludes liability for any use of the Material/Models which are licensed and/or sublicensed in clause 6 which is not permitted by the relevant licence/sub-licence.

4. Information Manager

The Protocol requires the Employer to appoint a party to undertake the Information Management Role. This is expected to form part of a wider set of duties under an existing appointment and is likely to be performed either by the Design Lead or the Project Lead, which could be a consultant or contractor at different stages of the project. In some circumstances the Employer may appoint a stand alone Information Manager.

The Scope of Services for the Role of Information Management will need to be defined in the Appointment of the party undertaking the Information Management Role. Details of the scope of services of the Information Manager have been prepared by the CIC. There are two versions: a detailed version compatible with the CIC scope of services, and another simpler version suitable for incorporation with any appointment, these are published separately on the BIM Task Group website, www:bimtaskgroup.org.

The Information Manager has no design related duties. Clash detection and model coordination activities associated with a 'BIM Coordinator' remain the responsibility of the design lead.

The principal responsibilities of the Information Manager can be summarised as:

- Managing the processes and procedures for information exchange on projects;

- Initiating and implementing the Project Information Plan and Asset Information Plan;

- Assisting in the preparation of Project Outputs, such as data drops; and

- Implementation of the BIM Protocol, including the updating of the MPDT.

The initial responsibility for the appointment of the Information Manager lies with the Employer, who must ensure that there is an Information Manager appointed (whether by the Employer or another party) at all times until completion of the Project, save to the extent that this is the responsibility of the relevant Project Team Member.

5. The Information Requirements

The Information Requirements (IR) has been included at Appendix 2 to the Protocol so that Project wide information requirements can be expressly incorporated into all Project Team Member Agreements. Clause 4.1.2 requires the Project Team Member to comply with the Information Requirements (including any protocols, procedures and processes set out therein). The Information Requirements define how a Model must be developed, although it will not change the substance of what each party must provide. Many of the requirements included in the IR will be taken from tender documents such as the Employer's Information Requirements. An exhibit of the Employer's Information Requirements, with guidance notes, is available on the BIM Task Group website.

Appendix 2 contains an example of what might be included in an IR but the content of the IR is entirely flexible. The Information Requirements should be adapted to suit the needs of the Project. Once prepared, the IR will be appended to the Protocol attached to all Project Team Agreements. It is likely to be an evolving document and will be subject to the change control procedure under the Agreement.

It is the responsibility of the Information Manager to agree and issue the IR, which should be prepared before the Agreements are concluded, as otherwise the parties will have to rely on the other contractual arrangements, which may not address the items covered by the IR.

6. Model Production and Delivery Table

The Model Production and Delivery Table (MPDT) is a key document as it both allocates responsibility for preparation of the Models and identifies the Level of Detail ("LOD") that Models need to meet at the project stages or data drops stated in the table.

The LODs are to be defined in Appendix 1 and it is expected that this will be done by reference to a separate document/standard. A definition of LODs can be found in PAS 1192-2, and further work is being undertaken by the BIM Task Group to define specific data content requirements for BIM. It is important that the LODs are defined appropriately as they determine both the content of a Model and the Permitted Purpose for which the Model can be used. Ideally the Models included in the MPDT will have been identified in schedules to the Employer's Information Requirements.

The MPDT is to be included at Appendix 1 and should be prepared before the Agreement is concluded. The same MPDT should be included in the Protocol appended to all Project Team Agreements. The MPDT should be completed carefully on a Level 2 project, so as not to impose additional obligations than intended, or to omit models from the scope of the Protocol. Should any variations to the MDPT be introduced at a later date, the change will be subject to the same procedure as required under the Agreement.

An exemplar MPDT has been published on the BIM Task Group website. It uses APM Project Stages and references to Data Drops described in the UK Government BIM Strategy. The APM Project Stages provide the closest match between stages used on building and infrastructure project stages. The MPDT can be adapted to refer to other Project Stage references, such as the RIBA Plan of Work, or Network Rail's GRIP.

Definition

'BIM Protocol: the CIC Building Information Modelling Protocol in the form attached at Appendix X.'

Incorporation into the definition of the Contract Documents

'BIM Protocol'

Compliance with obligations, benefits of rights, limitations or exclusions of liability

'The Employer and the Contractor shall:

1. comply with their respective obligations set out in the BIM Protocol;

2. have the benefit of any rights granted to them in the BIM Protocol; and

3. have the benefit of any limitations or exclusions of their liability contained in the BIM Protocol'

The specific amendments required to incorporate the Protocol should be considered on a contract by contract basis and legal advice should be sought in this regard. Exemplar amendments for certain standard form contracts and appointment documents will be published on the BIM Task Group website: www.bimtaskgroup.org.uk.

Parties should consider whether any amendments are required to the scope of services of the members of the Project Team in addition to the Protocol to reflect the fact that BIM is being used.

Exemplar amendments for contracts and appointment documents will be published on the BIM Task Group website: www.bimtaskgroup.org.uk.

1. DEFINITIONS

1.1 In this Protocol unless the context otherwise requires, the following words and phrases shall have the following meanings:

1.1.1 **Agreement** means the agreement between the Employer and the Project Team Member to which this Protocol is attached.

1.1.2 **Employer** means the person appointing the Project Team Member pursuant to the Agreement and any valid assignee of the Employer's rights and obligations under this Protocol, subject to the terms of such assignment.

1.1.3 **Federated Model** means a Model consisting of connected but distinct individual Models.

1.1.4 **Information Management Role** means a role in connection with the Project which includes, inter alia, the establishment and management of the processes, protocols and procedures set out in the Information Requirements.

1.1.5 **Information Manager** means the person appointed, initially by the Employer, to perform the Information Management Role.

1.1.6 **Information Requirements** means the document attached to this Protocol at Appendix 2 setting out the way in which Models shall be produced, delivered and used on the Project, including any processes, protocols and procedures referred to therein.

1.1.7 **Level of Detail** means the level of detail required for a Model as specified in Appendix 1 attached to this Protocol.

1.1.8 **Material** means all information in any electronic medium prepared by or on behalf of the Project Team Member comprised in:

a the Specified Models; and

b the Federated Models, to the extent that these comprise Specified Models or to the extent that the Project Team Member owns any additional rights in any Federated Model,

excluding any material forming part thereof which is provided to the Project Team Member by or on behalf of the Employer.

1.1.9 **Model** means a digital representation of part of the physical and/or functional characteristics of the Project

1.1.10 **Model Production and Delivery Table** means the table attached to this Protocol at Appendix 1 specifying the subject matter of each Model, the person who is to produce and deliver each Model (described in the table as "Model Originator") at each Stage and the Level of Detail for each Model at each Stage.

1.1.11 **Other Project Team Member** means any person having responsibilities in relation to the production, delivery and/or use of Models and appointed by the Employer in relation to the Project, excluding the Project Team Member.

1.1.12 **Permitted Purpose** means a purpose related to the Project (or the construction, operation and maintenance of the Project) which is consistent with the applicable Level of Detail of the relevant Model (including a Model forming part of a Federated Model) and the purpose for which the relevant Model was prepared.

1.1.13 **Project** means the project to which the Agreement relates.

1.1.14 **Project Agreement** means any agreement entered into between the Employer and an Other Project Team Member in relation to the Project.

1.1.15 **Project Team Member** means the person appointed by the Employer pursuant to the Agreement.

1.1.16 **Project Team Models** means any Models which Other Project Team Members produce and deliver as specified in the Model Production and Delivery Table and any Federated Models (or any part thereof) produced and delivered by Other Project Team Members.

1.1.17 **Protocol** means this building information modelling protocol including Appendix 1 and 2.

1.1.18 **Specified Models** means the Model or Models which the Project Team Member is to produce and deliver as specified in the Model Production and Delivery Table.

1.1.19 **Stage** shall have the meaning stated in Appendix 1.

2. PRIORITY OF CONTRACT DOCUMENTS

2.1 This Protocol forms part of the Agreement. In the event of a conflict or inconsistency between the terms of this Protocol and any other documents contained in and/or forming part of the Agreement, except where the Protocol states otherwise, the terms of this Protocol shall prevail.

2.2 In the event of any conflict or inconsistency between a Model prepared and delivered in accordance with this Protocol and any document or information extracted from such Model, except where the Information Requirements states otherwise, the Model shall prevail.

3. OBLIGATIONS OF THE EMPLOYER

3.1 The Employer shall:

3.1.1 arrange for a protocol in substantially the same terms as this Protocol and for the obligations set out herein to be incorporated into all Project Agreements; and

3.1.2 save to the extent that such obligations are within the scope of the Project Team Member's obligations under any other part of the Agreement:

a ensure that until the end of the Project the Information Requirements and the Model Production and Delivery Table are reviewed and updated at each Stage; and

b ensure that the appointment of the Information Manager shall be changed or renewed as necessary to ensure that there is at all times until the end of the Project a person performing the Information Management Role.

4. OBLIGATIONS OF THE PROJECT TEAM MEMBER

4.1 The Project Team Member shall:

4.1.1 produce the Specified Models (excluding any material forming part of the same which is provided to the Project Team Member by or on behalf of the Employer) to the Level of Detail specified in the Model Production and Delivery Table using the level of skill and care required under the Agreement; and

4.1.2 subject to events outside its reasonable control, (including the acts or omissions of the Employer, Other Project Team Members and any third party but excluding the Project Team Member's sub-contractors), use reasonable endeavours to:

a deliver the Specified Models at the Level of Detail specified in the Model Production and Delivery Table at the Stage specified therein and in accordance with the Information Requirements;

b use the Project Team Models in accordance with any procedures therefor in the Information Requirements; and

c comply with the Information Requirements; and

4.1.3 arrange for this Protocol to be incorporated into any sub-contracts that it enters into in relation to the Project to the extent required to enable the Project Team Member to comply with this Protocol.

5. ELECTRONIC DATA EXCHANGE

5.1 Without prejudice to the Project Team Member's obligations under this Protocol and the Agreement, the Project Team Member does not warrant, expressly or impliedly, the integrity of any electronic data delivered in accordance with this Protocol.

5.2 The Project Team Member shall have no liability to the Employer in connection with any corruption or any unintended amendment, modification or alteration of the electronic data in a Specified Model which occurs after it has been transmitted by the Project Team Member, save where such corruption, amendment, modification or alteration is a result of the Project Team Member's failure to comply with this Protocol.

6. USE OF MODELS

6.1 The Employer and the Project Team Member agree that any provisions in the Agreement concerning the copyright (or any other rights) in and licence to use the Material, the Federated Models, the Project Team Models, any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer and any proprietary work contained therein shall be varied to the extent necessary so that sub-clauses 6.2 to 6.8 apply to the Material, the Federated Models, the Project Team Models, any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer and any proprietary work contained therein but if there are no such provisions sub-clauses 6.2 to 6.8 shall apply.

6.2 Any rights (including but not limited to any copyright) subsisting in the Material and any proprietary work contained in the Material shall, as the case may be, vest or remain vested in the Project Team Member.

6.3 Subject to clause 6.4 and 6.5, the Project Team Member grants to the Employer a non-exclusive licence and, to the extent that the Material and any rights subsisting therein are owned by third parties, a sub-licence, (including the right to grant sub-licences on identical terms to Other Project Team Members, which shall include the right to grant sub-sub-licences on identical terms to Other Project Team Members' sub-contractors) to transmit, copy and use the Material and any proprietary work contained in the Material for the Permitted Purpose.

6.4 The licence and sub-licence (if any), granted in clause 6.3 may be suspended or revoked in the event of non-payment to the extent that any licence in the Agreement provides for such suspension or revocation.

6.5 The licence in clause 6.3 shall not include the right to:

6.5.1 amend or modify the Material without the Project Team Member's written consent (not to be unreasonably withheld), save where such amendment or modification is:

a provided for in the Information Requirements; or

b made for the Permitted Purpose following the termination of the Project Team Member's employment under the Agreement; or

6.5.2 reproduce any proprietary work contained in the Material for any extension of the Project.

6.6 Subject to clause 6.8 and any right of revocation contained in the licence granted to the Employer in respect of the same, the Employer grants to the Project Team Member a non-exclusive sub-licence (including the right to grant sub-sub-licences on identical terms to the Project Team Member's sub-contractors) to transmit, copy and use for the Permitted Purpose:

6.6.1 any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer;

6.6.2 the Project Team Models (and any part thereof);

6.6.3 any Federated Model (and any part thereof); and

6.6.4 any proprietary work contained in the same,

to the extent that the same or any rights subsisting therein are owned by Other Project Team Members or any other third party.

6.7 Insofar as the Employer owns:

6.7.1 any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer;

6.7.2 the Project Team Models (or any part thereof);

6.7.3 any Federated Model (or any part thereof);

6.7.4 any proprietary work contained in the same; or

6.7.5 any rights subsisting in any of the above,

subject to clause 6.8, the Employer grants to the Project Team Member a non-exclusive licence (including the right to grant sub-licences on identical terms to the Project Team Member's sub-contractors) to transmit copy and use the same for the Permitted Purpose.

6.8 The licence and sub-licence (if any) granted in clauses 6.6 and 6.7 shall not include the right to:

6.8.1 amend or modify a Model without the written consent (not to be unreasonably withheld) of the Employer or the Other Project Team Member who produced and delivered that Model (or the relevant part thereof), save where such amendment or modification is:

a provided for in the Information Requirements; or

b in respect of material produced or delivered by an Other Project Team Member, made for the Permitted Purpose following the termination of the Other Project Team Member's employment under the Agreement; or

6.8.2 reproduce any proprietary work contained in a Model for any extension of the Project.

6.9 The Project Team Member represents to the Employer that it has, or that it will procure, the right to grant either a licence or sub-licence in the form granted in clause 6.3 in respect of the Material and any proprietary work contained therein.

6.10 The Employer represents to the Project Team Member that it has, or that it will procure, the right to grant either a sub-licence in the form granted in clause 6.6 or a licence in the form granted in 6.7 in respect of:

6.10.1 the Project Team Models (and any part thereof);

6.10.2 any Federated Model (and any part thereof) which does not form part of the Material;

6.10.3 any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer; and

6.10.4 any proprietary work contained in the same.

7. LIABILITY IN RESPECT OF A MODEL

7.1 The Employer and the Project Team Member agree that any provisions in the Agreement concerning the use of the Material, the Federated Models, the Project Team Models, any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf of the Employer and any proprietary work contained therein shall be varied to the extent necessary to give effect to clauses 7.2 and 7.3 but if there are no such provisions clauses 7.2 and 7.3 shall apply.

7.2 The Project Team Member shall have no liability to the Employer arising out of any modification or amendment to, or any transmission, copying or use of the Material, or any proprietary work contained therein, by the Employer, an Other Project Team Member, or any other third party, other than that permitted by clause 6.3.

7.3 The Employer shall have no liability to the Project Team Member arising out of any modification or amendment to, or any transmission, copying or use of the Project Team Models, or any material forming part of the Specified Models which is provided to the Project Team Member by or on behalf by the Employer, or any Federated Models, or any proprietary work contained in the same, sublicensed or licensed by the Employer pursuant to clauses 6.6 and 6.7, by the Project Team Member or any third party, other than that permitted by clause 6.6 or 6.7 (as applicable).

8. TERMINATION

8.1 Clauses 1, 2, 3, 5, 6 and 7 of this Protocol shall continue to apply following termination of the Project Team member's employment under the Agreement.

Appendix 1 – Model Production Delivery

University of Cambridge	LOD & Model Production Delivery Table	
	Originator	Reference
Core Models		
Architecture		ARC
Structural		CSE
MEP		MEP
Contractor		CON
Additional Models		
Eg. Landscaping		Eg.LAR

The Model Production and Delivery Table (MPDT) is a key document as it both allocates responsibility for preparation of the Models and identifies the Level of Definition that Models need to meet at the project stages or data drops stated in the table.

Model originator and responsible parties, must be named.

Models should be added as required and agreed by the project PIM.

Cost data should be produced at NRM3 for later stages (levels 1 & 2 shown below for clarity).

LOD and LOI are deliverables for each stage. (For LOD and LOI definition, see University of Cambridge EIR, Appendix E.)

University of Cambridge
Insert Project Name
Model Production Delivery Table

	Consult						Implementation & Delivery												Asset Operation	
RIBA 2013 (CIC) Workstage	**1**			**2**			**3**			**4**			**5**			**6**			**7**	
	Preparation & Brief			Concept			Developed Design			Technical Design			Construction			Handover & Closeout			In Use	
	LOD	LOI	Resp Party	LOD	LOI	Resp Party	LOD	LOI	Resp Party	LOD	LOI	Resp Party	LOD	LOI	Resp Party	LOD	LOI	Resp Party	LOD	Resp Party
Elements, Materials & Components (NRM1)																				
1 Substructure																				
1 Substructure	1	1	CSE	2	2	CSE	3	3	CSE	4	4	CSE	4	4	CON	5	5	CON	TBC	FMA
2 Superstructure																				
1 Frame	1	1	CSE	2	2	CSE	3	3	CSE	4	4	CSE	4	4	CON	5	5	CON	TBC	FMA
2 Upperfloors	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
3 Roof	1	1	CSE	2	2	CSE	3	3	CSE	4	4	CSE	4	4	CON	5	5	CON	TBC	FMA
4 Stairs and ramps	1	1	CSE	2	2	CSE	3	3	CSE	4	4	CSE	4	4	CON	5	5	CON	TBC	FMA
5 External walls	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
6 Windows and external doors	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
7 Internal walls and partitions	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
8 Internal doors	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
3 Internal finishes																				
1 Wall finishes	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	5	4	CON	5	5	CON	TBC	FMA
2 Floor finishes	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	5	4	CON	5	5	CON	TBC	FMA
3 Ceiling finishes	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	5	4	CON	5	5	CON	TBC	FMA
4 Fittings, furnishings and equipment																				
1 Fittings, furnishings and equipment	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
5 Services																				
1 Sanitary installations	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
2 Services equipment	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
3 Disposal installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
4 Water installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
5 Heat source	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
6 Space heating and air conditioning	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
7 Ventilation	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
8 Electrical installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
9 Fuel installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
10 Lift and conveyor installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
11 Fire and lightning protection	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
12 Communication, security and control systems	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
13 Specialist installations	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
14 Builder's work in connection with services	NA		NA	NA		NA	2	2	MEP	3	3	MEP	3	3	CON	5	5	CON	TBC	FMA
8 External works																				
1 Site preparation works	NA		NA	NA		NA	NA		NA	4	4	ARC	4	4	CON	NA		NA	NA	NA
2 Roads, paths, pavings and surfacings	1	1	ARC	2	2	ARC	3	3	ARC	4	4	ARC	4	4	CON	5	5	CON	TBC	FMA
3 Soft landscaping, planting and irrigation systems	1	1	LAR	2	2	LAR	3	3	LAR	4	4	LAR	4	4	CON	5	5	CON	TBC	FMA
4 Fencing, railings and walls	1	1	LAR	2	2	LAR	3	3	LAR	4	4	LAR	4	4	CON	5	5	CON	TBC	FMA
5 External fixtures	1	1	LAR	2	2	LAR	3	3	LAR	4	4	LAR	4	4	CON	5	5	CON	TBC	FMA
6 External drainage	1	1	CSE	2	2	CSE	3	3	CSE	4	4	CSE	4	4	CON	5	5	CON	TBC	FMA
7 External services	1	1	MEP	2	2	MEP	3	3	MEP	4	4	MEP	4	4	CON	5	5	CON	TBC	FMA
8 Builder's work in connection with external services	NA		NA	NA		NA	2	2	MEP	3	3	MEP	3	3	CON	5	5	CON	TBC	FMA

1. Standards

The following standards shall apply, as included in the Employers Information Requirement document (EIR):

M = Mandatory R = Recommended		Application											
Standards		Guidance	Collaboration	Project stages	File naming	Object naming	Drawing	Classification	LOD	CDE	Costing	COBie	Contracts
	BS1192:2007				M	M	M	M		M			
	PAS1192-2:2013	M	M										
	PAS1192-3:2014	M											
	PAS1192-4:2014	R										M	
	PAS1192-5:2014	R											
	NBS BIM Toolkit Level of Definition and classification	R					R	R	R				
	COBie-UK 2012							M				M	
	Uniclass 2015 (NBS Toolkit)							R					
Industry	BS8541-1:2012					M							
	BS8541-2:2011					M							
	BS8541-3:2012					M							
	BS8541-4:2012					M							
	BS8541-5:2012					M							
	AECUK BIM Protocol				M	M							
	CIC/BIM INS									M			
	CIC BIM protocol		M										R
	RICS NRM1: New Rules of Measurement										M		
Bespoke	BIM Execution Plan (BEP)	M	M	M	M	M			M	M			
	UoC Space Measuring Guide	M				M							
	UoC Space Numbering Convention	M				M							

2. Parties

2.1 The parties involved in the Project are:

Role	Company
Architect	*Insert Company Name here*
Interior Designer	*Insert Company Name here*
Structural Engineer	*Insert Company Name here*
Civil Engineer	*Insert Company Name here*
MEP	*Insert Company Name here*
Landscape Designer	*Insert Company Name here*
Project Manager	*Insert Company Name here*
Cost Manager	*Insert Company Name here*
Facilities Manager	*Insert Company Name here*
CDM-C	*Insert Company Name here*

2.2 The role of Information Manager shall be performed by the following person or persons for the following stages:

	Stages	Person	Company
1	Preparation	*Insert Person's Name here*	*Insert Company Name here*
2	Concept design	*Insert Person's Name here*	*Insert Company Name here*
3	Developed design	*Insert Person's Name here*	*Insert Company Name here*
4	Technical design	*Insert Person's Name here*	*Insert Company Name here*
5	Specialist design	*Insert Person's Name here*	*Insert Company Name here*
6	Construction	*Insert Person's Name here*	*Insert Company Name here*
7	Use and aftercare	*Insert Person's Name here*	*Insert Company Name here*

3. Employer's Information Requirements

3.1 The Common Data Environment as below shall be as defined further in the EIR section *3.5* :

CDE for this project	*Insert details here, if known*
Contact details	*Insert details here, if known*

3.2 The Models shall be developed using the following versions of the following software:

Software	Version
Autodesk Revit	*Insert version here*
Bentley AECOsim	*Insert version here*
Graphisoft ArchiCAD	*Insert version here*
Gehry Technologies Digital Project	*Insert version here*
Nemetschek Vectorworks	*Insert version here*
Tekla Structures	*Insert version here*
Virtual Build Technologies RhinoBIM	*Insert version here*
AutoCAD 3D Civils	*Insert version here*
Solibri Model Checker	*Insert version here*
Autodesk Navisworks	*Insert version here*
CostX	*Insert version here*
BIM Measure	*Insert version here*

3.3 The Models shall be delivered by the persons listed below in the following formats:

Company	Person	File Format
See project BEP	*See project BEP*	*See project BEP*

3.4 Files and layers shall be named and numbered in accordance with AEC (UK) BIM Protocols v2.0 and BS1192-2007. Refer also to the University of Cambridge's CAD Standards.

3.5 Units, annotation, dimensions, abbreviations and symbols shall be used when developing the Model in accordance with NRM1 and BS1192-2007.

3.6 To keep coordinates consistent, set-out information shall be maintained throughout all models, and to eliminate compatibility issues arising from discrepancies between coordinate systems, all project files should share the same Survey Point and Coordinates. Refer to the **EIR section 4.7** for further details with regard to the coordinates system/s.

3.7 The planning of work and data segregation is outlined in the EIR. Refer to the **EIR section 3.2** for further details with regard to this. General principles of best practice shall be adhered to.

3.8 Data drops and information exchange shall take place in accordance with the **EIR section 4.1.** To the extent that the EIR requires a particular piece of information to be extracted from a Model in more than one format at any particular Stage, all such formats shall be extracted from the same Model.

4. Project Procedures

4.1 Project protocols/procedures are further outlined in the EIR and should be read in conjunction with this document. In accordance with project processes these will then be developed and documented for inclusion in the Building Information Modelling Execution Plan (BEP).

4.2 With respect to resolution of design conflicts:

- The federated BIM will take precedence over any and all documents where conflicting information has been issued where information has been represented in 3D.
- The lead consultant/designer shall be responsible for design coordination as defined in the scope of appointment, irrespective of BIM processes or authoring tools. When a contractor is appointed, this responsibility may be adjusted or reallocated to the contractor subject to the novation agreement.