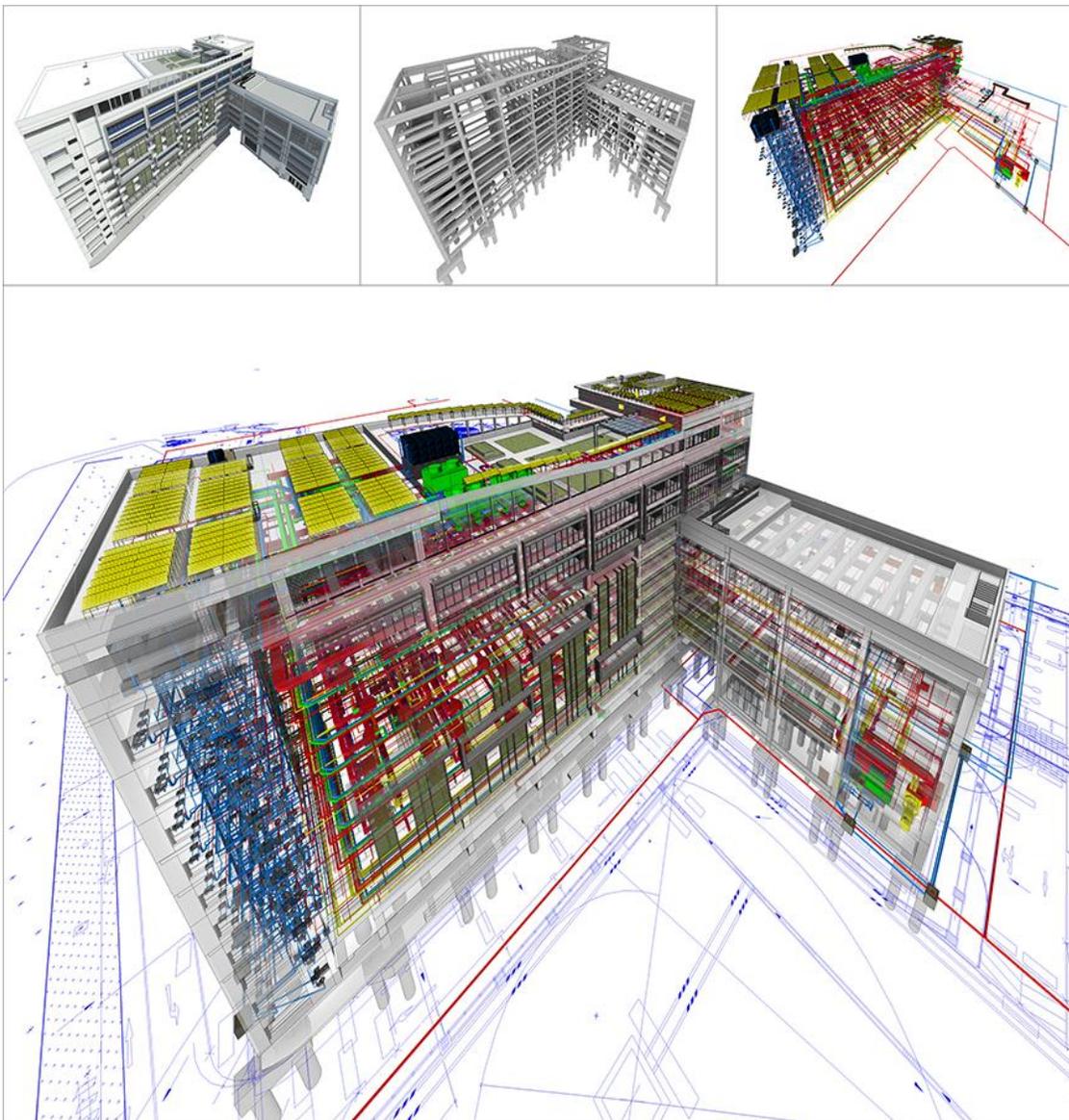


BIM Particular Conditions

Version 2



BCA acknowledges the leadership provided by the BIM Steering Committee in support of the production of the BIM Particular Conditions.

The BIM Particular Conditions has been drafted by the BIM Particular Conditions Workgroup on behalf of BCA and the BIM Steering Committee.

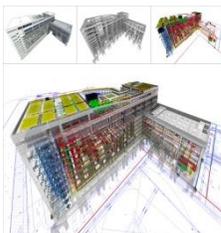
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NOTES

The BIM Particular Conditions Version 2.0 on the following pages may be attached to contracts in projects where BIM is used.

Please read the Notes below before using the BIM Particular Conditions.

Notes:

- A. This document is for use in construction projects where Building Information Modelling (BIM) is used and shall be called the BIM Particular Conditions. All parties in such projects may incorporate the BIM Particular Conditions into their respective agreements or contracts for services, supply and/or construction for the project.
- B. The BIM Steering Committee (BIMSC) appointed by the Building and Construction Authority (BCA) developed this document. The BIMSC consists of representatives from a wide cross-section of the construction industry. The BIM Particular Conditions was developed by consensus of opinion of the members of the BIMSC.
- C. The BIM Particular Conditions can be used for all methods of procurement. However, this document does not cover all issues in the use of BIM; especially those that may be specific to any particular user. The BIMSC therefore encourages users to review and adapt the BIM Particular Conditions for specific use. Users should obtain appropriate professional/legal advice before making any changes to the BIM Particular Conditions.
- D. Please refer to the Notes to Users at the end of this document for further information.

PARTICULAR CONDITIONS FOR BUILDING INFORMATION MODELLING

1. DEFINITIONS

- 1.1. **BIM** means building information modelling and is the process and technology used to create a Model.
- 1.2. **BIM Guide** refers to the guide on use of BIM which is specified in the Principal Agreement. If the Principal Agreement does not mention a guide to be used, then the Building and Construction Authority Singapore BIM Guide (current as at the date of the Principal Agreement) shall be used.
- 1.3. **BIM Particular Conditions** means this document.
- 1.4. **BIM Execution Plan** means the latest plan outlining the procedures and modelling protocol prepared in accordance with Clause 4.
- 1.5. **BIM Manager** means the person, firm or corporation appointed by the Employer in accordance with Clause 3 to be the BIM Manager.
- 1.6. **Contribution** means the expression, design, data or information that a party in the Project creates or prepares, and shares with other parties in the Project for use in or in connection with a Released Model. Contribution includes a Released Model.
- 1.7. **Designer** refers to any party in the Project who is responsible for the design of the whole or some part of the Project.
- 1.8. **Drawings** means two dimensional representations, hand sketches, perspective views or other graphical outputs printed physically or electronically.
- 1.9. **Employer** means the party named as “the Employer” in the main building contract for the Project
- 1.10. **Model** means a digital representation of the Project or part of the Project, and used to describe a two dimensional representation, three dimensional representation, as well as other data representations, including Drawings, as identified in the BIM Execution Plan.
- 1.11. **Released Model** means a Model identified as such and released by the Model Author from time to time as agreed in the BIM Execution Plan.
- 1.12. **Model Author** means the party responsible for developing the specific content of a Model to the level of detail required for a particular purpose of the Project. **Model Authors** are identified in the BIM Execution Plan.

- 1.13. **Model User** means any party authorised to use a Model in the Project, such as for analysis, estimating or scheduling or for development of other Models, and includes subsequent or other Model Authors.
- 1.14. **Principal Agreement** means the agreement or contract for services, supply and/or construction which a party has entered into for the Project.
- 1.15. **Project** means the project referred to in the Principal Agreements.

2. GENERAL PRINCIPLES

- 2.1. The Principal Agreement for any party who is carrying out BIM shall include the BIM Particular Conditions.
- 2.2. Any party to the Project who has the BIM Particular Conditions in its Principal Agreement shall, by a term in the relevant agreement or contract, include the BIM Particular Conditions in the respective agreement or contract with all of its subconsultants, suppliers and subcontractors who will be involved in carrying out BIM for the Project.
- 2.3. The benefit of the BIM Particular Conditions shall accrue to every party in the Project who has the BIM Particular Conditions in its Principal Agreement.
- 2.4. Unless otherwise expressly provided in the BIM Particular Conditions, the BIM Particular Conditions do not change any contractual relationships or shift any risk of the parties in a Project which has been agreed in the respective Principal Agreements. In particular:
 - 2.4.1. Nothing in the BIM Particular Conditions shall relieve a Designer from its obligation, nor diminish the role of the Designer, as the person responsible for and in charge of the design of the Project or any part of the Project.
 - 2.4.2. Participation of a contractor, its subcontractors and/or suppliers in carrying out BIM shall not constitute performance of design services unless the contractor, its subcontractors and/or suppliers had assumed design responsibility under their respective Principal Agreements.
- 2.5. In the event of any inconsistency between the BIM Particular Conditions and the relevant Principal Agreement, the BIM Particular Conditions shall prevail.
- 2.6. With regard to the Models, the following principles shall apply:
 - 2.6.1. A Released Model is not intended to provide the level of detail needed in order to extract materials, specifications or quantities unless this is required in the BIM Execution Plan.

- 2.6.2. All dimensions in a Model shall be verified on site where possible and applicable before commencing any construction.
- 2.6.3. If any party to the Project discovers any discrepancy between the latest version of a Released Model by one Model Author and that by another Model Author, or any contract document in any Principal Agreement, that party shall immediately inform the BIM Manager who shall facilitate resolution of the discrepancy.

3. BIM MANAGEMENT

- 3.1. The Employer shall appoint one or more BIM Managers for the Project. All compensation and related costs for the BIM Manager shall be paid by the Employer unless otherwise agreed between the parties in the Project.
- 3.2. The role and responsibilities of the BIM Manager shall be as provided in the BIM Guide unless agreed otherwise in the BIM Execution Plan.

4. BIM EXECUTION PLAN

- 4.1. As soon as practicable and from time to time as required, the BIM Manager shall call all parties to the Project involved in the execution of BIM to confer and agree upon the terms of or modifications to the BIM Execution Plan. The parties involved shall use their best efforts to agree upon the terms of or modifications to the BIM Execution Plan.
- 4.2. The BIM Execution Plan shall be developed in accordance with the BIM Guide.
- 4.3. The BIM Manager shall maintain a history of all Released Models.
- 4.4. The BIM Manager shall schedule and facilitate all meetings concerning BIM. In the event of any disagreement on the terms of or modifications to the BIM Execution Plan, the BIM Manager's decision shall be final and conclusive. In the event that more than one BIM Manager has been appointed, then the decision shall be the joint decision of the BIM Managers failing which, the Employer shall decide and his decision shall be final and conclusive.
- 4.5. If under the BIM Execution Plan, any party is required to perform or carry out any work which is beyond its scope of work under its Principal Agreement, such work shall be treated as additional works or variations under its Principal Agreement. The party carrying out the additional works or variations shall, before commencing any such

work, obtain the prior written consent of the counter party(ies) to its Principal Agreement, whichever is applicable.

- 4.6. The BIM Manager shall report to and keep the Employer informed on all matters and the BIM Execution Plan, as updated from time to time, shall be subject to the approval of the Employer.

5. RISK ALLOCATION

- 5.1. The Contribution of each Model Author is intended to be shared with Model Users throughout the course of the Project.
- 5.2. Subject always to Clause 6, in contributing content to the Model, the Model Author does not convey any ownership right in the content provided or in the software used to generate the content. Any subsequent Model User's right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project (including authorities' submissions, where required), and nothing contained in the BIM Particular Conditions conveys any other right to use the Model for another purpose.
- 5.3. It is understood that while specific content of a Released Model may include data that exceeds the required level of detail specified in the BIM Execution Plan, Model Users may rely on the accuracy and completeness of a Released Model only to the extent required for the level of detail specified in the BIM Execution Plan.
- 5.4. Any use of, or reliance on, content of a Released Model that exceeds the level of detail specified in the BIM Execution Plan by Model Users shall be at their own risk and without liability to the Model Author. Model Users shall indemnify and defend the Model Author from and against all claims arising out of or in relation to that Model User's unauthorised modification to, or use of, the Model Author's content.
- 5.5. Should any Released Model be included as part of the contract documents in any Principal Agreement, parties may rely upon the accuracy of information in that Released Model only to the extent specified in the BIM Execution Plan.
- 5.6. The standard of care applicable to each Model Author regarding its Contribution shall be in accordance with that party's Principal Agreement. If the standard of care is not specified, the standard of care shall be the applicable degree of skill, care and diligence expected of a competent person involved in execution of BIM in Singapore, carrying out the same role or scope of work as that Model Author on the Project.

- 5.7. Each party in the Project shall use its best efforts to minimize the risk of claims and liability arising out of or in relation to the use of or access to its Released Models. Such efforts may include reporting forthwith to the relevant party and the BIM Manager any errors, inconsistencies or omissions it discovers in its Released Model or Contribution.
- 5.8. No Model Author shall be responsible for costs, expenses, liabilities, or damages which may result from use of its Contribution beyond the uses stated in the BIM Execution Plan.

6. INTELLECTUAL PROPERTY RIGHTS

- 6.1. Each Model Author warrants that it owns the copyright to its Contribution or is licensed by the holders of copyright in the Contribution to make the Contribution and grant such licence as enumerated under sub-Clause 6.3.
- 6.2. Subject to sub-Clause 5.8, each Model Author agrees to indemnify the Model Users against claims of third parties for infringement or alleged infringement of copyrights contained in that Model Author's Contribution.
- 6.3. Each Model Author grants to the Model Users a limited, non-exclusive licence to reproduce, distribute, display or use the Contribution of that Model Author for the sole purpose of carrying out BIM in the Project. The limited licence granted in this sub-Clause shall include any archival purposes permitted in these BIM Particular Conditions or in the Principal Agreement of that Model Author. In this regard, after final completion of the Project, the non-exclusive licence shall be limited to keeping an archival copy of Project-related Contributions.
- 6.4. The Employer's right to use any Released Models and Contributions after completion of the Project shall be governed by the Principal Agreement(s) of the Model Author of the relevant Released Model and Contribution.
- 6.5. In the absence of express language to the contrary in the Principal Agreement or in the BIM Particular Conditions:
 - 6.5.1. nothing in the BIM Particular Conditions, and
 - 6.5.2. no act by any party in the Project in furtherance of the BIM Particular Conditions,shall limit, transfer or otherwise affect any of the intellectual property rights that a party may have with respect to any Contribution. Other parties, persons or entities

that provide Contributions to a Model shall not be deemed to be co-authors in the Contributions of other parties to the Project.

7. ELECTRONIC DATA EXCHANGE

- 7.1. Each party does not warrant the integrity of any electronic data delivered in accordance with the BIM Particular Conditions other than as expressly provided, if any, in the BIM Execution Plan or the Principal Agreement.
- 7.2. Each party shall not be liable for any corruption or unintended amendment, modification or alteration of the electronic data in any Model produced by that party which occurs after the said Model has been transmitted by that party except where the corruption or unintended amendment, modification or alteration was due to the failure of that party to comply with the BIM Particular Conditions or the BIM Execution Plan.

8. TERMINATION, RESCISSION OR EXPIRY OF PRINCIPAL AGREEMENT

- 8.1. Clauses 1, 2, 5 and 6 of the BIM Particular Conditions shall continue to apply following the termination, rescission or expiry of the Principal Agreement.

Notes to Users:

1. Clause 1.2 defines the BIM Guide as either the Singapore BIM Guide published by BCA or such other guide as may be expressly provided in the Principal Agreements. If the user intends to use any other guide for a project, then it is absolutely critical that this be stated in the Principal Agreements (see next paragraph for a suggestion on how this can be done).
2. For the BIM Particular Conditions to apply in a project, the parties must ensure that the BIM Particular Conditions is incorporated as a contract document in the Principal Agreements. This can be done in a variety of ways. Suggestions for the more common local standard forms of contract are set out below**.
 - a. **REDAS Design and Build Conditions of Main Contract, 3rd Edition**

To insert as one of the documents in Appendix 4:
The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Appendix 4:
**The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable]*
 - b. **REDAS Design and Build Sub-Contract Conditions, 1st Edition**

To insert as one of the documents in Appendix 2:
The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Appendix 2:
**The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*
 - c. **SCAL Conditions of Sub-Contract**

To amend Clause 4 by adding a new Clause 4(j) as follows:
(j) *Schedule 10: The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.*

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to amend Clause 4 by adding a new Clause 4(j) as follows:
(j) *Schedule 10: *The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

d. SCAL Standard Agreement for Appointment of Consultants

To insert as one of the documents in Appendix C:

The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert as one of the documents in Part 1 of the Schedule:

**The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

e. SIA Articles and Conditions of Building Contract, 9th Edition

Article 6.(f) provides for any letters or documents to be included as a Contract Document. It should be made known to tenderers that the List of Additional Contract Documents referred to in the Appendix includes:

(i) *The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.*

(ii) **The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

f. SIA Conditions of Sub-Contract for use in conjunction with the Main Contract (Lump Sum Contract and Measurement Contract, 8th and 9th Edition)

It should be made known to tenderers that the list in Part I of the Schedule includes:

(i) *The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.*

(ii) **The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

g. SIA Articles and Conditions of Contract for Minor Works 2012, 1st Edition

Article 5.(e) provides for any documents to be included as a Contract Document. It should be made known to tenderers that Contract Documents include:

(i) *The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.*

(ii) **The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

h. SIA Conditions of Appointment and Architect's Services and Mode of Payment, 3rd Edition

To add a new Clause 1.1(11):

- (i) *The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.*
- (ii) **The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

i. Association of Consulting Engineers Singapore Agreement

To insert at Clause 1.1.1(i) of the Specific Provisions:

The BIM Particular Conditions, Version 2, published by the Building and Construction Authority.

For the purposes of Clause 1.2, if it is intended that another guide for BIM be used, then, to insert at Clause 1.1.1(i) of the Specific Provisions:

**The Singapore BIM Guide / "Name of BIM Guide" [*whichever is applicable].*

** Users are advised to check with the respective associations mentioned above on the latest status of their respective standard forms before using the suggested clauses above.



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For more information and feedback
on the BIM Particular Conditions,
please visit the following blog:

bimsg.org

