UNSW BIM REQUIREMENTS

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Revision 1

Contents

1. Introduction

The purpose of this document is to provide Tenderers an overview of UNSW Building information Modelling (BIM) requirements. This brief must be read in conjunction with the UNSW Guidelines when preparing design responses for tender submission. The UNSW Design Guidelines are to be adhered to as the governing reference document, readily available at **UNSW Design Guidelines**. The items outlined in this brief must be taken as a minimum basis for design consideration, with areas not outlined to be addressed in accordance with the UNSW Design Guideline, during both ECI and D&C stages of the Project.

2. Preface

UNSW requires that the new project takes advantage of collaborative 3D BIM tools and processes and achieves the many benefits that are afforded. All project and asset information, documentation and data are to be delivered in digital formats at set times during delivery and at completion.

In this document, **Contractor** refers to the lead contractor and its design consultants, sub-contractors and trades - all stakeholders involved in the creation of design and construction documentation. The Contractor has responsibility for all its supply chain to fulfil the requirements described in this document.

Client refers to the UNSW and its internal stakeholders.

3. BIM modelling by the Contractor

- 2D documents (e.g. CAD or PDF) are cut and published - with additional drafting elements for notation, dimensioning and detailed information as required - from BIM models.
- BIM modelling processes will be used once the Schematic Design stage has been approved
- BIM modelling will be inclusive of the following disciplines:
    - Architecture, including immediate surrounding areas considered part of the overall works
    - Interior design
    - Structures
    - Mechanical
    - Electrical and Lighting
    - Hydraulics
    - Fire

4. Information Management - Modelled Elements

- Using attributes/parameters that can be associated directly with BIM model elements, a unique text code is to be applied to each modelled element, specifically:
    - Repeated elements (e.g. lights, air diffusers, sprinkler heads) will share a unique code
    - Large and/or significant elements will have an individual unique code
- The codes will be maintained and consistent throughout the design and documentation process
- At the commencement of the Detailed Design stage, the Client will provide to the Contractor:
    - A list of the asset types that are to have a code applied, grouped into various disciplines.
    - A document that provides a standard by which unique codes will be generated by the Contractor.

5. Information Management - Room/Space Elements

- At the commencement of the Detailed Design stage of the programme, the Client will provide the Contractor with names for each Room (i.e. all internal spaces and contained external spaces) based on the Client standard.
- The naming of Rooms will be achieved with the use of attributes/parameters as defined above.
- From this point forward, all 2D documents (i.e. plans, sections, schedules etc) will refer to these standardised names.

6. Inter-Disciplinary Coordination

- BIM models will be used for coordination at all stages beyond Schematic Design.
- The Contractor will use BIM tools to coordinate models to ensure critical design and construction outcomes are achieved in general, and specifically so that:
    - All structural elements are coordinated against all other building elements to ensure the critical programme of their delivery and installation is achieved.
    - All services, in particular those exposed to the building users, are efficiently and carefully planned and installed.
    - All discipline's model elements are coordinated and tested against spatial clashing to a professional level of care and diligence prior to building, fabrication and/or installation.

7. Project communication facilitated by BIM models

- The Contractor will issue single, combined coordination models at regular intervals and specific program milestones
- If and where required as part of the project programme, the Contractor will use the BIM models to assist communication, identify issues and facilitate decision making in the following areas:
    - Design reviews
    - Staging of works
    - Safety in design and risk management
    - General communication between the Contractor and the Client
    - Any other area where it is reasonable to expect that the use of the BIM model would benefit the Client or assist in the efficient delivery of the project.

8. Deliverables from the Contractor to the Client

- Native BIM models and IFC models representing for-construction across disciplines. If these models are issued separately, the Contractor will ensure they share a common origin to allow combining by the Client.
- CAD plans derived from the BIM models according to Client standards as specified outside of this document.

9. Capability Assessment and return information

- The Contractor will provide a written response on how these BIM requirements will be provided. The Client may review and request further clarification before approval. Refer to the Returnable Schedules.
- As part of the capability assessment process, the Contractor will provide specific information regarding solutions and methodology on:
    - Model coordination and clash detection (ref item 6)
    - Provision of interim models issued to the Client with regards to software and formats (ref item 7)
    - A summary of what BIM deliverables will be made available to the Client mapped against the project programme.
    - Details of key contacts within the Contractor team who will have responsibility for the delivery of the items listed above.
- On acceptance of the contract, the Contractor will provide a methodology statement (i.e. BIM Management Plan) that outlines the use of BIM for the new project that incorporates at minimum the items listed above.

10. Independent review

- During the delivery of the project, the Client may seek independent review of the Contractor's use of BIM tools and the required outcomes as stated above.