Submission to the Department of Infrastructure,

Local Government and Planning

Building Information Modelling – draft policy and principles for Queensland

on behalf of the BrisBIM community.

BRISBIM

BrisBIM Mission Statement

"Our purpose is to facilitate and bring together the built environment community within the greater Brisbane region, to share and exchange thoughts and knowledge in respect to technology innovation across the industry."

About BrisBIM

BrisBIM events have been held bi-monthly since April 2013. It is a highly regarded industry event, with over 1,000 unique attendees attending its events since its inception. The non-profit group creates events that cover a range of topics from technical, managerial through to business and aspirational. We seek speakers from a wide variety of backgrounds. The committee believes in providing an avenue for clients, practitioners, contractors and interested parties to come together in an informal gathering to discuss learn and share from others in the industry.

BrisBIM Committee

Mark Cronin | Peddle Thorp
Clay Hickling | GHD
Nathan Love | AECOM
Sherman Powell | Urbis
Karl De Wet | Draftech
Nathan Hildebrandt | Fulton Trotter Architects
Adam Sheather | AECOM
Joe Banks | Nettleton Tribe
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and issued to BrisBIM mailing list of over
1000 people representing various AECO industries.

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21 April 2017

Mr Andrew Curthoys
Director Infrastructure Policy, Engagement and Taskforce
Queensland Government
1 William Street
Brisbane QLD 4000

Email: infrastructurepolicy@dilgp.qld.gov.au

Dear Andrew,

We congratulate you and your team at the Department of Infrastructure, Local Government and Policy on the delivery of the *'Building Information Modelling – draft policy and principles for Queensland.'* The BrisBIM Committee are 100% supportive of the Policy and look forward to seeing the final document with minor amendments endorsed by Cabinet, and adoption by the various agencies across the State Government.

Please find attached our submission on behalf of the BrisBIM Community for your review and consideration when finalising the policy document.

Also attached we would like to put forward additional comments made by the BrisBIM Community that we would like DILGP to consider progressing foward.

Once again we would like to reinforce our support behind this policy and welcome any further discussions with you to share Industry's experiences with DILGP and other State Government Agencies.

Yours sincerely

BrisBIM Committee

on behalf of the BrisBIM AECO Community

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Additional Comments

The Construction Industry has a reputation for being slow to adopt change, however, it is commonly accepted that change needs to occur. The implementation of new processes including BIM is fundamental to the future of a productive and efficient industry.

The BrisBIM committee is 100% supportive of the Queensland's Government's 'Building Information Modelling – draft policy and principles for Queensland'. We fully appreciate that this is a high level statement and that technical documents will be required underneath this policy to enable industry to deliver in a consistent manner. The goal of this document is to outline the Queensland Government's Organisional plans and objectives, not how to deliver the outcome.

In the context of this policy the term BIM (Building Information Management) may be more clearly explained as Better Information Management. There is a need to keep things simple and the use of plain language should be prioritised over the use of technical industry terminology.

The reference or use of other reports and documents from related BIM initiatives (such as BIM Knowledge and Skills Framework from ACIF & APCC, and the National Guidelines for Infrastructure Project Delivery from the Federal Government) is highly recommended in pursuit of a harmonised approach for industry.

A clear framework of BIM documents and guidelines will need to be developed to enable delivery from industry. It is also recommended that sector based groups are established to help the individual departments, agencies and statutory authorities engage with industry and academia to identify potential value and develop their unique information requirements. These documents ideally would be developed at a National Level and not only adopted at a State Government level but also at a Local Authority level also to achieve national consistency. Consistency will ease in implementation, dellivery training and a reduction in wastage.

At the BrisBIM feedback workshop there was a clear objection to the recommendation for pilot projects. The benefits of BIM have already been proven, it is only the success of implementation that can be measured. The use of pilot projects would delay progress by several years, stalling the development required by government for successful implementation. A preferred solution would instead measure one or two nominated metrics (varying to suit the information requirements of a project) across many projects.

Most of the agencies have old or disparate Asset Management systems and practices – so when we say BIM will help Asset Management – it probably won't in the short term. BrisBIM and its associated community are willing to work collaboratively with agencies to form what this can look like for each agency – in a staged and sensible approach which matches the agencies capability and capacity to affect change.

The most anticipated question as a result of this policy is "What's next?". It is recommended that a timeline with defined milestones is published to map out the implementation of this policy. A final recommendation is to not only consider the value BIM can add to the Queensland Government's assets, but also the potential loses of not enabling the construction industry with the framework and guidelines to implement BIM processes and become skilled up in new technologies that will deliver efficiency and productivity gains along with economic stimulus for Australia's built environment into the future.

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Suggested amendments

Building Information Modelling – draft policy and principles for Queensland

on behalf of the BrisBIM community.

Introduction

Building Information Modelling (BIM), also commonly referred to as Virtual Design and Construction (VDC) or Digital Engineering (DE), is the digital representation of physical and functional characteristics of a building or piece of physical infrastructure. BIM serves as a shared knowledge resource for information about an asset throughout its lifecycle – supporting decision making – from strategic appraisal and planning, design and construction to operation, maintenance and renewal.

BIM enables a collaborative way of working using digital processes to enable more productive methods of planning, designing, constructing, operating and maintaining assets through their lifecycle.

Governments in Australia recognise the importance of BIM in the delivery and management of infrastructure assets as it offers many benefits throughout the asset lifecycle and has the potential to drive efficiency, value for money, productivity, innovation and safety.

To maximise the benefits from its application of BIM to infrastructure projects within its annual capital program, this framework will support the effective use of BIM across Queensland Government infrastructure delivery agencies. A focus of the framework includes BIM capability development across government and industry.

Scope

The BIM – policy and principles for Queensland apply to:

- all Queensland Government departments, agencies and statutory authorities.
- the full lifecycle of all new state infrastructure assets, including all vertical (e.g. buildings such as hospitals and schools) and linear infrastructure (e.g. roads and railways).
- smaller new projects.
- existing assets where cost effective.

This policy will be progressively implemented on building projects by 2020 and infrastructure projects by 2023 as defined in the Queensland Government State Infrastructure Plan.

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Comment [NH1]: We believe that the addition of the additional descriptive terms assist to make this document more relevant to the broad nature of agencies within the QLD Government. This enables it to refer to more than just Buildings but include Infrastructure.

Comment [NH2]: We commend DILGP for the scope contents nominated.

Comment [NH3]: We believe that these two statements should be separated at this point in time. BrisBIM believe that small projects can be delivered using BIM processes just as effectively as large projects.

We agree that existing assets need to be determined on a project by project basis at this point in time due to industry experience and technology / cost issues. BrisBIM believes that in the future all assets should be captured and this statement potentially removed in a future review once cost / benefits align.

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Comment [NH4]: We believe that to drive forward progress a statement needs to be made regarding progressive implementation towards the goal date. We also recommend breaking and nominating dates for Buildings and Infrastructure.

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Objectives

- To provide a framework that enables the use of BIM on the full lifecycle of state infrastructure assets by 2023, delivering measurable benefits which include:
  - more efficient and on-time project delivery
  - reduced project risk
  - improved safety
  - improved built outcomes
  - improved asset management
  - reduced costs
- To increase capacity and capability within the public sector to maximise value from the use of BIM on state infrastructure projects.
- To identify ways for BIM to be incorporated into the regulatory and procurement environments.
- To promote consistency and interoperability in the information requirements for state infrastructure projects to facilitate a harmonised approach for industry.

Audience and application

The BIM – policy and principles for Queensland have been produced for use by officers within the Queensland Government including departments, agencies, bodies and statutory authorities and, in particular, those who are involved in the planning, procurement, design, contract management, construction, maintenance or operation of state infrastructure assets.

Comment [NH5]: Could a statement be added regarding Other States and Territories being encouraged to adopt or reference this document in the development of their own BIM policies and principles.

Principles

Open

The Queensland Government will use an Open BIM[1] approach (using open data standards that are interoperable and archivable) so that BIM information, systems, standards and processes, enable interoperability and interconnectivity.

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Comment [NH6]: We recommend the modification as shown to more clearly stating an approach rather than just using OpenBIM with a focus on interoperability and accessibility in the future. We also suggest removing the footnote to buildingSMART if other key organisations are not mentioned in the document also.

BIM information will connect with other relevant information, e.g. geographic information systems, and offer easy and efficient accessibility and re-use.

Managed

BIM information will be managed securely at least for the life of the infrastructure asset (from conception to demolition) in a central repository by the asset owning/maintaining agency (or an agency such as Queensland State Archives or CITEC).

The lifecycle of BIM information will be actively managed (i.e. information is regularly accessed and kept current for asset maintainers) and maintained.

Comment [NH7]: We recommend the deletion of the wording regarding keeping information live 'in up-to-date software versions' as this could be interpreted as native format files or will require significant cost and resource requirements for the Government Agencies. By leaving this open it will enable agencies or technical documents to determine these requirements.

Deleted: in up-to-date software versions.

[1] buildingSMART Australasia has defined 'Open BIM' as a process where the digital BIM prototype is structured in a non-proprietary, open-standard format and the associated processes are supported by industry-standard tools for managing information exchange between proprietary software tools and open access to standardised object libraries that host manufacturer's product data. These open formats support collaboration and provide customers with the freedom to choose any BIM software solution, which meets their business needs, knowing that they can share their BIM data easily with others who use different software solutions.

Effective

The Queensland Government will use BIM on infrastructure projects and, as appropriate, on existing infrastructure projects.

Queensland will work collaboratively with all jurisdictions and the private sector to drive best practice in the use of BIM on Queensland Government initiated public infrastructure development.

The Queensland Government will utilise industry best practice and recognise asset class-specific standards for infrastructure projects in consultation with NATSPEC and Standards Australia.

The Queensland Government will develop specific approaches to advance the use of BIM in the regulatory areas of workplace health and safety, and heritage conservation by 2020 to support a more pro-active and efficient approach to regulation in these areas.

The Queensland Government agencies will continuously improve their BIM capability through to 2023. This will include agency endorsed information requirements and BIM management plans that outline the use of federated models which include scheduling, costing and the use of digital models for asset management.

Deleted: the NATSPEC National BIM Guide

Comment [NH8]: We commend the recommendation of using NATSPEC as it aligns with ACIF and APCC.

We advise that the current suite of NATSPEC documents will need significant investment to bring them up to date with government requirements in 2020 / 2023.

Deleted: , for infrastructure projects in consultation with industry and recognise asset class-specific standards

Comment [NH9]: We recommend the deletion of Employer from this sentence as the term may lead to confusion when ISO19650 is released in 2018

Deleted: employer

Comment [NH10]: We recommend the deletion of the word fully from fully federated as this may lead to greater requirements than you really want

Comment [NH11]: We recommend the change from BIM to digital models so that it is written in more plain English.

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Supported

Relevant expertise and capability will be developed and maintained by agencies (such as the Department of Transport and Main Roads, Queensland Health and the Department of Education and Training).

The Department of Housing and Public Works will assist and facilitate internal capacity, building and developing the information requirements in collaboration with the other agencies.

The Queensland Government will work with education, training and research providers to support the development and maintenance of a BIM-skilled workforce including state government officers.

The Queensland Government will foster a Centre of Excellence for training and skilling of a range of BIM users.

BIM policy will be incorporated into and align with relevant infrastructure project planning, procurement and assessment frameworks across government.

Other industry and government BIM initiatives, such as the ACIF BIM Knowledge and Skills Framework, will be incorporated wherever possible and appropriate.

Comment [NH12]: We recommend the removal of the acronym EIR and replacement with Information Requirements. We also recommend changing development for, to 'develop in collaboration with agencies so that it isn't an isolated development.

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Deleted: Information Requirements (EIRs) for other agencies as required

Comment [NH13]: We suggest the inclusion of the words range so that people realise that there will be a variety of skills needed, everyone's skills will not need to be the same.

Comment [NH14]: We suggest that other National BIM Initiatives are referenced where relevant.

Implementation and alignment of principles

a. The Queensland Government will apply these principles.

b. The Queensland Government will develop and update an implementation plan for the use of BIM commencing from 2018.

c. To evaluate the outcomes of implementing BIM, the continuous improvement will be measured and reported by agencies to the Queensland Government, with an initial focus on different metrics from many projects.

d. These principles align with the National Digital Engineering policy principles and the National Archives of Australia Digital Continuity 2020 policy to ensure consistent approaches for industry across jurisdictions. Add footnote with links

e. A communications plan will be implemented to facilitate widespread understanding and adoption of these principles by government.

f. The Queensland Government will ensure its contractual arrangements provide for the delivery of a project information model of the asset to the requirements of the asset owners when the asset is handed over.

g. The Queensland Government will implement a plan to develop relevant expertise and capability within government and industry.

Comment [NH15]: If this document is to be used as a policy document we believe that best endeavours should be removed from this statement.

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Comment [NH16]: We believe that a timeline needs to be included in this statement.

Comment [NH17]: We believe that the benefits may not be achieved in the first instance due to experience of the delivery team/ or that the deliverable requirements may not be 100% correct and need to be adjusted etc. So we believe that the best approach would be to progressively undertake projects and monitor them against the expected outcomes with the view to adjust to meet desired outcomes.

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Comment [NH18]: We recommend against pilot projects as a term in principle as the duration of most projects will run longer than a few years and the overall benefits will not be found for quiet some time, therefore delaying overall roll out of this policy. We recommend the approach of using a number of projects and applying and reviewing relevant metrics so there are a spectrum of projects that can commence and report results more rapidly.

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Comment [NH19]: We recommend the addition of a footnote and link to this specific document.

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Comment [NH20]: We recommend adjusting the terminology from BIM Model to project information model to align with current terminology.

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h. These principles will be reviewed by the Queensland BIM Working Group on an annual basis to incorporate project learnings.

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Comment [NH21]: This document will need to remain as a live document and we suggest that the wording is changed from within 12 months to annually. This policy should then reflect the Queensland Government's Organisational Plans and Objectives that will guide all other technical requirements and deliverables.

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