

A Complete BIM Toolkit?

By Frank Newbery

Expo 2020 Dubai: Adopting the Rio de Janeiro 2016 Olympic model

By Christopher Miers

Subterranean Home Trick Blues

By Katerina Hoey



PROBYN · MIERS
INTERNATIONAL CONSTRUCTION DISPUTE RESOLUTION

'Perspective'

These articles are a compilation of Perspective Newsletter, our quarterly digital publication and part of Probyn Miers knowledge sharing policy directed to the construction industry and our clients. Perspective brings you news, information and points of view on topical issues relevant to architects, engineers, surveyors, construction lawyers, contractors, insurers and all of our colleagues in the industry. The articles, intentionally short, are the bases for further in-depth discussions at in-house talks and workshops that Probyn Miers runs for our clients. Our articles are published in other journals with prior agreement.

Should you be interested to receive information on any of our events, do contact us at:

E: info@probyn-miers.com

Our Events:

- ▶ Probyn Miers Annual Conference / London-Dubai
- ▶ 'The Thing is...': A forward thinking gathering of construction leaders and specialists. These are breakfast sessions 'by personal invitation only'
- ▶ Perspective Newsletter
- ▶ Webinars
- ▶ Workshops / Talks on our areas of expertise and run at clients' offices

Follow us



"We have found Probyn Miers to be a highly responsive and customer focused organisation, offering a range of forensic technical services. They bring a unique blend of technical competence, together with commercial and legal awareness which make them a natural first port of call".

- Major Contractor Client

Our Expertise

International Dispute Resolution & Avoidance • Architect Expert Witnesses • Adjudicators • Project Procurement • Project Management • International Arbitration • International Dispute Boards • Mediators • Expert & Forensic Investigation • FIDIC Contracts • Power & Energy • Technical Audits • Building Design and Specification • BID/ Tender Advisory • Building Defects • Litigation Support • Project Rescue Consultancy • Contract Management • Architectural Services • Contract Administration • Dispute Review of Construction Claims • Fire Cases Consultancy • Expert Determination • Remedial Works • Training & Workshops • Public Speaking

A Complete BIM Toolkit?

By Frank Newbery

First Published June 2015

Few in the construction industry will remain unaware of the UK Government-promoted drive towards BIM adoption, and the specific aim that by 2016 all construction projects procured by Central Government in the UK should employ BIM at "Level 2". BIM has also started to gain considerable traction outside the public sector. A key part of this drive has been the collaboration between professional and industry bodies in the development of forms and standards that will provide a robust procedural framework for BIM's new and developing capabilities. BIM naturally tends towards increased collaborative working and the production of ever fuller and more accessible stocks of information and the uncertainties and risks arising from this have had to be addressed.

A number of new publications due in early 2015 are widely expected by advocates of BIM to fill the last remaining gaps in what should then be a full "toolkit" for Level 2 BIM procurement and implementation. This "toolkit" will comprise the following:

Document	Date	Comments
CIC BIM Protocol	2013	Enables a requirement for BIM to be annexed to any contract. Includes: Appx.1 Model Production & Delivery Table. Appx.2 Information Requirements. Backed by guides on the Information Manager's role and PI insurance in relation to BIM projects.
RIBA Plan of Work	2013	New "cycling" work stages 0-7 replace old "A" to "L". Backed by RIBA Guide and revised Architect's Job Book.
RIBA/NBS NBS BIM Object Standard	2014	Comprehensive BIM-object classification to enable better interoperability between different BIM platforms.
RIBA/NBS Digital Plan of Work & Uniclass 2	Expected Apr 2015	Free web-accessed electronic forms. Tailored to specific projects by defining and classifying project elements, participants' inputs and required levels of development.
CPIx Protocol	2011-13	Standard forms for BIM Execution Plan and for BIM assessment of contractors, suppliers and resources.
Cabinet Office Government Soft Landings	2013	Based on BSRIA "Soft Landings" principles. A focussing of BIM capability on end-use performance and feedback.
BSI/CIC PAS 1192-2	2013	British Standards / Publically Available Specifications:- <ul style="list-style-type: none">• BIM info management for capital phase / construction.• BIM info management for operational phase / assets.• Fulfilling employer info requirements using COBie. [1]• BIM information security measures (under development).
PAS 1192-3	2014	
BS 1192-4	2014	
PAS 1192-5	Expected 2015	

Some forms of building contract may be better suited to BIM implementation than others. The inherently collaborative nature of BIM suggests that contracts embodying "partnering" principles, such as JCT Constructing Excellence, NEC3 and PPC2000, may be the most compatible. However, with the CIC BIM Protocol properly annexed, any of the commonly used standard forms of contract should be capable of satisfactory adaptation.

Concurrent with this recent evolution of procedures and standards there has been a parallel trend towards integrated technological standards and interoperability between BIM software applications.

For instance, some architectural firms now find it both feasible and useful to operate more than one BIM modelling application [2] within the same working environment, with no significant difficulties or impairment of personnel and technical integration.

There is also a large and growing range of niche BIM software applications tailored to various professional, technical and managerial specialisations. Commercial pressure demands that these can export, import and interact with each other easily and efficiently. This is particularly important for main contractors needing to integrate the input of many and various subcontractors and suppliers on any BIM projects that they undertake.

These consolidating advances suggest the possibility that a critical threshold has been reached beyond which practitioners who fail to acquire BIM capability will risk increasing marginalisation. A perception persists that the M&E sector is currently trailing other construction industry sectors in its BIM capability. This is an issue that must be addressed if the benefits to the design team of collaborative working within a BIM environment are to be fully realised and delivered to the employer in the form of effective and efficient project design delivery

The "toolkit" now developed in the UK is seen by BIM advocates as a uniquely advanced asset both for internal growth and for global deployment. It is difficult at this stage however to predict what sort of pitfalls might be encountered as level 2 BIM increasingly becomes the lingua franca of the design team, at least on complex projects. It seems inevitable that there will be divergent interpretations of areas of the "toolkit" and these may need to be tested in the courts before a common understanding of the protocols can be established.

Further difficulties are likely to arise as BIM evolves from the "federation" of separate models required by Level 2, and approaches Level 3, in which a shared BIM model is subject to development and alteration by different parties. It seems likely that this shift, when it arrives, will require a further evolution of the "toolkit" itself. Also, as noted in my previous article on BIM, Copyright and Licensing (Perspective, Summer 2014), there may already be potential difficulties concerning how the CIC BIM Protocol deals with Intellectual Property rights.

[1] Construction Operations Building information exchange

[2] e.g. Autodesk Revit, Bentley AECOsims, Graphisoft, ArchiCAD

Frank Newbery is a Chartered Architect with over thirty years' experience in the construction industry. He has been active in expert witness consultancy since 2004. He is experienced in all the key professional tasks including client liaison, design, planning and building control consents, technical detailing and production information, contract administration and obtaining resolution of defects. Frank has given expert evidence in court and has been a key participant in several mediations. In recent years Frank has taken a special interest in the evolution of BIM procedures and conventions, and gives public presentations on the topic.
fnewbery@probyn-miers.com

Expo 2020 Dubai: Adopting the Rio de Janeiro 2016 Olympic model

By Christopher Miers

First Published June 2015

What can the Rio 2016 Olympic and Paralympic Games bring to the Expo 2020 Dubai delivery programme? Well, Rio 2016 and the Dispute Resolution Board Foundation are implementing dispute avoidance and resolution provisions in a unique way across 35 contracts for the Rio 2016 procurement, which equally could be applied for Expo 2020. Successful delivery for these high profile projects is critical, since there is no possibility of delay to completion of the contracts, and everything is in the public eye. Dispute Boards have built up a track record of facilitating successful delivery of major construction projects and have been used by many governments and public bodies.

Dispute Boards and the Dispute Resolution Board Foundation (DRBF)

Dispute Boards (DBs) provide a contractual mechanism for real-time dispute avoidance and rapid dispute resolution during the course of a project. They have been developed primarily on major construction projects, with their background commencing in the 1970s in the USA, and thereafter from the 1980s developing worldwide.

In essence, a DB is a panel of three (and occasionally only one) experienced, impartial and independent members who have a dual role under the contract: to visit site regularly and meet with the parties, to facilitate resolution of issues as they arise and before they escalate into formal disputes; and to be available to provide a recommendation or a decision on a dispute if formally referred to the DB.

The DB concept used in the USA is that of a 'DRB', a Dispute Review Board which, in addition to the dispute avoidance role, will provide a recommendation for the resolution of a dispute which is referred to it.

In contrast to this, the concept used most widely internationally is the 'DAB', a Dispute Adjudication Board, which has both the dispute avoidance role, and the role of dispute adjudication providing an interim-binding decision on a dispute when required, which dispute can still be referred on to international commercial arbitration if either party decides to do so.

The Dispute Resolution Board Foundation (DRBF) is a not-for-profit Foundation dedicated to promoting the use and understanding of DBs, and providing training, worldwide. The DRBF is recognised as the leading international organisation in the field of DBs. Accordingly it was approached by the Rio 2016 Olympic and Paralympic Games organisation to assist them in providing an appropriate dispute avoidance and rapid dispute resolution procedure for use on the Rio 2016 contracts.

Rio 2016 Olympic and Paralympic Games

The Rio 2016 Games are to be run in August and September 2016. The Brazil Government (Federal, State and Municipalities) is responsible for the delivery of city bid commitments, being the main venues and infrastructure; and Rio 2016 is responsible for delivery of the Games, including what are described as the 'overlay contracts' which are mostly temporary constructions such as the media building, pools, an arena, ramps and decking, barriers, lighting and signage, bridges, cranes, water and waste treatment, stands and seating.

Under the leadership of Augusto Barros de Figueiredo e Silva Neto, Legal Manager – Dispute Prevention and Resolution of the Rio 2016 Organising Committee for the Olympic and Paralympic Games, Rio 2016 has introduced DBs ('Comitê de Resolução de Disputas') for the delivery of 35 of these overlay contracts for the Games. DRBF, led by Christopher Miers, along with Peckar & Abramson and MVA Abogados, have created the DB Panels and Rules for DB implementation for Rio 2016.

Panels of DB Members

We have created two panels of DB members for these Rio 2016 games: a panel of DB Chairs, who will chair the three-person DBs; and a panel of DB Members, from which each party can select one member.

Each panel member has passed through a two-part process of assessment and training prior to listing:

- A pre-selection process which required applicants to demonstrate an extensive background of relevant experience and qualification, as well as the required language skills (fluent Portuguese for DB Members, and fluent Portuguese or Spanish with some English for DB Chairs).
- Successful completion of a DB training course run by the DRBF.

For Rio 2016 the panel make up therefore brings together Brazilian, Latin American and other international lawyers, engineers and other construction professionals. Expo 2020 can adopt a similar combination of local and international expertise. On each three-person DB, therefore, it can be expected that the combination of experience and skills, and ability to work with the contracting parties in the rapid resolution of differences and avoidance of disputes, will be highly effective. For the one-person ad hoc DBs, the selection of the one-person member will be important for the type of project and individual DB member's background.

Dispute Board Rules

The established international DB rules are those of the FIDIC suite of contracts and the ICC DB Rules. In the USA ConsensusDocs also provides standard DB rules. The FIDIC rules are the most widely known in Dubai.

Special DB Rules had to be drafted for the exceptional circumstances for which the Rio 2016 DBs are required in Brazil. In putting the rules together, we considered the provisions and concepts in Consensus Docs 200.4 and 200.5, as well as rules and DB agreements from other sources. The Rio 2016 rules also are drafted to work alongside local law. The DB Rules form part of the contract between Rio 2016 and each contractor.

Key features of the Rio 2016 DB Rules are:

- Each party selects a DB Member from the DRBF Rio 2016 panel, to be approved or rejected by the other party; grounds for rejection are limited in scope.
- The two DB Members in turn select the DB Chair from the panel.
- Each DB Member and Chair must sign a statement of independence and disclosure.
- In the event of a failure to appoint or agree on the DB selection, the President of the DRBF will make the appointment from the DRBF Rio 2016 panel.
- Short timetables are in place to accord with the short programs for the procurement of these Rio 2016 projects.
- The DB has the power to provide written advisory opinions when jointly requested.
- A formal referral of a dispute may be made to the DB, to obtain a binding decision.
- Later, further referral of the DB decision and the dispute to judicial or arbitral proceedings remains possible.

- Operational assistance is provided by a 'DB Program Manager'. The Program Manager assists the parties in the initial establishment of the DBs, and thereafter assists in the procedural operation of the DBs. This is necessary due to the very short timetables, and to provide consistency of operation across the 35 DBs.
- Remuneration rates for the DB are fixed as a daily rate and monthly retainer.

Special tri-partite agreements have also been drafted, for the employer-contractor-DB member agreements.

Rio 2016 contracts are now in place incorporating these DB provisions. Of course there remains much work to be done by all parties to bring the Olympic and Paralympic Games to a successful conclusion. Equally, Expo 2020 Dubai can take note of the challenges for delivery of such a high profile, public programme and, I believe, take advantage of the experience in Rio de Janeiro to assist in the successful delivery of the Expo 2020 Dubai construction programme.

Adapted from an article by Christopher Miers for Kluwer Arbitration Blog, published on 25th May 2015.

Christopher Miers is the founder and CEO of Probyn Miers. He is a Chartered Architect, a Chartered Arbitrator, an Adjudicator, a Mediator and a leading international Expert Witness. He is the past President of the Dispute Resolution Board Foundation (DRBF - International Region) and serves on UK and international Dispute Resolution Panels including those under the FIDIC forms of contract. Christopher is on FIDIC's President's List of Approved Dispute Adjudicators and is regarded as a leading negotiator and advisor in worldwide construction conflict avoidance and resolution. Christopher is a Visiting Professor at Peking University, School of Transnational Law. He collaborates in various International Forums and lectures worldwide on 'How to Avoid Disagreements Escalating into Disputes'.

cmiers@probyn-miers.com

Subterranean Home Trick Blues

By Katerina Hoey

First Published June 2015

The trick of extending residential property below ground in order to circumvent those UK planning restrictions that apply to development above ground has become increasingly popular; especially in those central London boroughs where space is scarce but money is abundant. However, one such borough has decided to rein in the practice and others may follow.

Subterranean development, increasingly provided on multiple levels, offers additional space for the 'extras' now demanded in high value residential development; recent applications have proposed parking, plant, staff accommodation, wine cellars, swimming pools, spas, private cinemas and even a bowling alley.

The enthusiasm for ever more ambitious underground schemes has been increasing. Basement planning applications to the Royal Borough of Kensington and Chelsea in London ('RBK&C'), have increased from 46 in 2001, to 182 in 2010 and 450 in 2013.

The growth in both the quantity and scope of basement construction has brought a corresponding increase in concerns raised by neighbours regarding nuisance, surface water drainage, traffic management and the structural stability of nearby buildings.

London Boroughs of Westminster, Camden and Wandsworth, have all launched policy guidance and consultation related to basement construction. RBK&C, however, are the first to introduce restrictions on subterranean developments through the introduction of their Basement Planning Policy CL7. In anticipation of the policy being adopted, a decision not to process any further basement applications was taken by RBK&C on 14 October 2014. The policy was adopted on 21 January 2015, concluding a 2 year consultation process.

The policy sets down new rules relating to: the extent of the development; nuisance; structure and drainage, as well as maintaining some existing guidelines. On first reading they appear to be clear and comprehensive, on closer examination, however, there are a number of issues that may require clarification.

Extent of Development:

- All basement development not to exceed a maximum of 50% of each garden or open part of the site;
- All basement development to comprise no more than a single storey below ground (though the policy notes that exceptions may be made on large sites);
- No further basement floors may be added where there is an extant or implemented planning permission for a basement, or one built through the exercise of permitted development rights;
- No excavation will be permitted underneath a listed building
- In limiting the extent of development, the policy seeks to address concerns regarding the period of construction operations on site and the resultant disturbance and loss of amenity to neighbours.

- Whilst the policy appears to be fairly clear cut on the limits of basement development to be permitted, it does concede that “exceptions [to the single storey limit] may be made on large sites”. I expect that the definition of a ‘large site’ is likely to be the subject of planning appeals in the future.

Nuisance:

- All basement development to ensure that traffic and construction activity do not cause unacceptable adverse harm to pedestrian, cycle, vehicular and road safety, significantly increase traffic congestion or place unreasonable inconvenience on the day to day life of those living, working and visiting nearby; and
- All basement development to ensure that construction impacts such as noise, vibration and dust are kept to acceptable levels for the duration of the works.
- Whilst these rules do address the significant nuisance issues that have accompanied large residential basement development, they rely on subjective assessment. How are ‘unacceptable’, ‘significantly’ and ‘unreasonable’ to be defined and measured? What constitutes an acceptable level of noise or vibration? When does traffic congestion increase become significant? Can inconvenience be measured in terms of what is reasonable, given individuals’ own fluctuating tolerance levels? It is not at all clear how this section of the policy might be enforced or challenged.

Structure and Drainage:

- All basement development to include a sustainable drainage system, to be retained thereafter;
- All basement development to be designed to safeguard the structural stability of the existing building, nearby buildings and other infrastructure including London Underground tunnels and the highway; and;
- All basement development to be protected from sewer flooding through the installation of a suitable pumped device.

These matters are usually dealt with through Building Control and Party Wall legislation and it seems likely that technical compliance with the regulations will continue to be overseen by building control officers and party wall surveyors. It is not clear, however, how the requirement to retain a sustainable drainage system might be monitored and enforced.

Existing Design Guidelines:

- All basement development to comply with tests in national policy as they relate to the assessment of harm to the significance of heritage assets;
- All basement development must not introduce light wells and railings to the front or side of the property where they would seriously harm the character and appearance of the locality; and
- All basement development external elements including light wells and roof lights to be discreetly sited and limit the impact of light pollution.
- Whilst these all appear to be consistent with existing design guidelines, I note that the policy requires light wells and roof lights to ‘limit the impact of light pollution’. There do not appear to be any light pollution limits defined, nor is it clear how this is to be monitored, enforced or challenged.

Meanwhile, Policy CL7 confirms that RBK&C will adopt a Basements SPD in the future, which will provide guidance on the information that will need to be submitted with basement applications. This will include a construction method statement as well as a range of other supporting information, some of which is already covered under existing Building Regulations and Party Wall legislation.

While RBK&C policy CL7 certainly addresses the various concerns examined during its extensive consultation period there are still issues which require clarification as well as possible openings for exceptions to the strict new rules. It remains to be seen how the anomalies identified are resolved and whether any other London boroughs will follow suit.

Katerina Hoey is a Chartered Architect with over 20 years’ experience in the construction industry and with a MA in Construction Law. She has a broad experience in design, construction and urban regeneration projects in London, Beirut, the Middle East and China. Her expertise includes design, management, coordination and contract administration and under a broad range of standard form contracts. Katerina has worked on many expert investigations; extending from master planning to technical performance disputes, drafting/amendment of appointments, bespoke contracts, warranties and novation agreements.

khoey@probyn-miers.com



London

Hamilton House
1 Temple Avenue, Temple
London, EC4Y 0HA
Tel: +44 (0)20 7583 2244
www.probyn-miers.com

Dubai

Emirates Towers, Level 41
Sheikh Zayed Road
Dubai, PO Box 31303
Tel: +971 4 313 2346
www.probyn-miers.ae
info@probyn-miers.com

