

Bamboo and BIM

One Big Housing Unconference 2013

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Overview

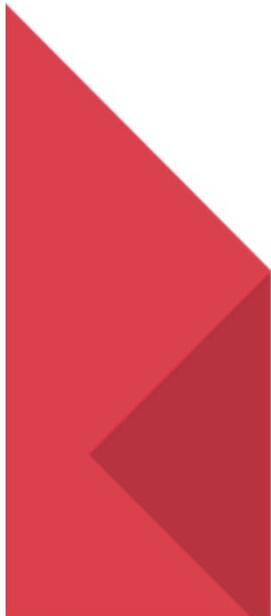
- The Town and Country Planning (General Permitted Development) (Amendment) (England) Order 2013
- Mixed Use Developments – Bamboo Nightclub in Leeds
- BIM





Town and Country Planning (General Permitted) (Amendment) (England) Order 2013

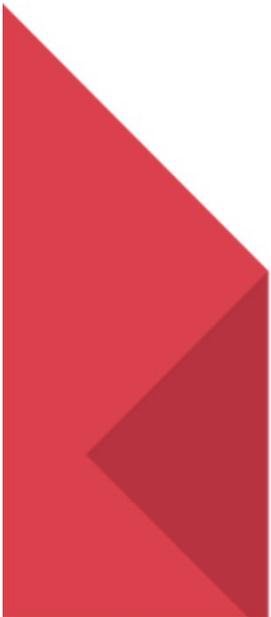
- 30 May 2013
- Allow conversion of office buildings (B1a) to Homes / Residential (C3)
- Intended effect:
 - increase housing supply
 - reduce pressure on greenfield sites
 - regenerate commercial sites

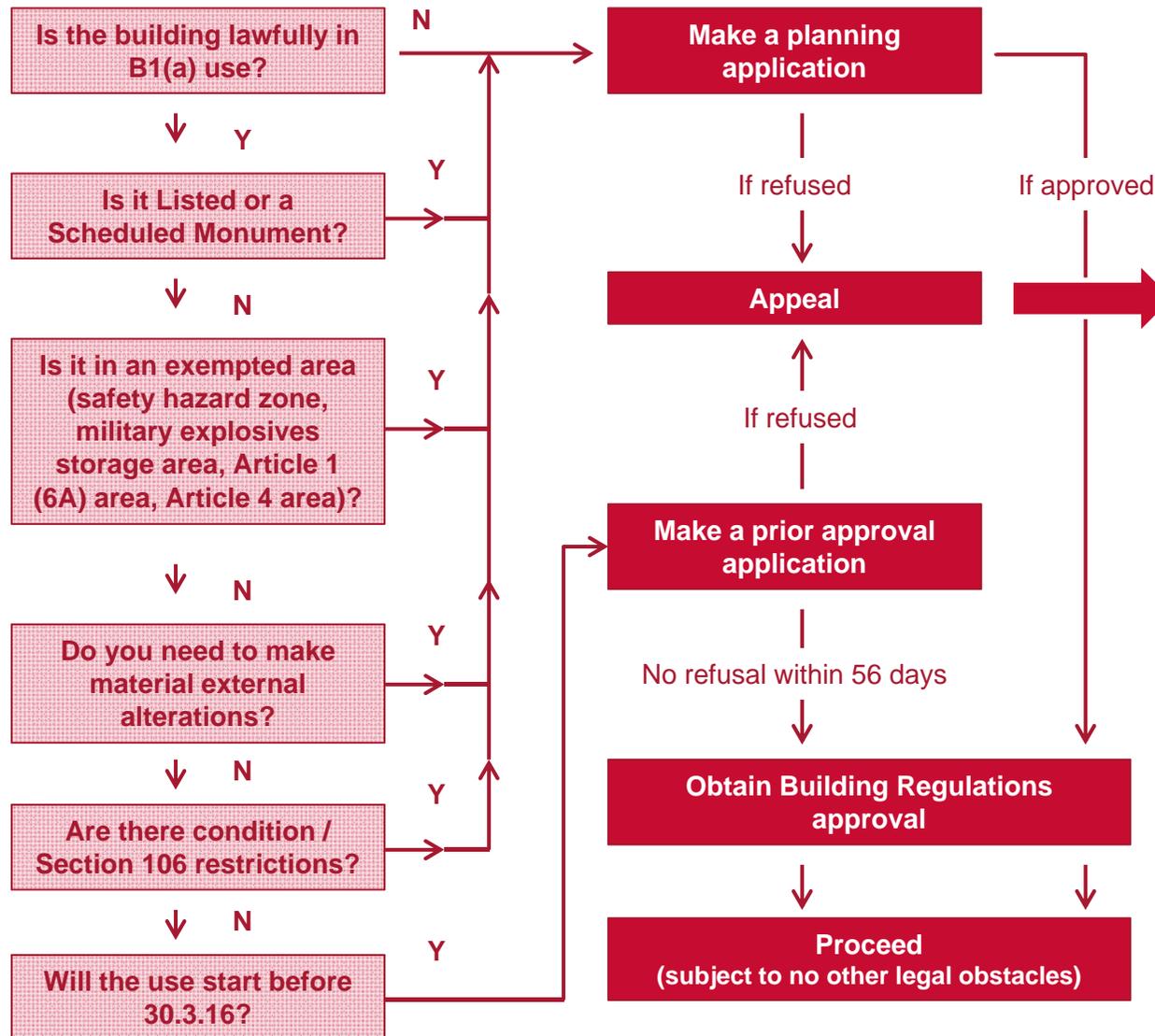




Limitations

- In use as offices at 30 May 2013
- Other restrictions – covenants, leases, section 106
- Listed building / Scheduled Monuments
- Exempted areas
- Prior Approval Application
- Material external physical alterations
- 3 years
- Building regulations





Where is office to residential conversion viable?

Location (CV £/sq ft)		
Secondary office	Prime residential	Potential uplift in capital value per sq ft for office to residential
	Prime office	
Secondary office: 1970s, 10 storey, steel frame Prime office: as above but refurbished to Grade A quality Prime residential: average values		

Birmingham		
£75	£300	£75
	£225	

Bristol		
£60	£370	£220
	£150	

Mayfair		
£1,500	£3,000	£1,000
	£2,000	



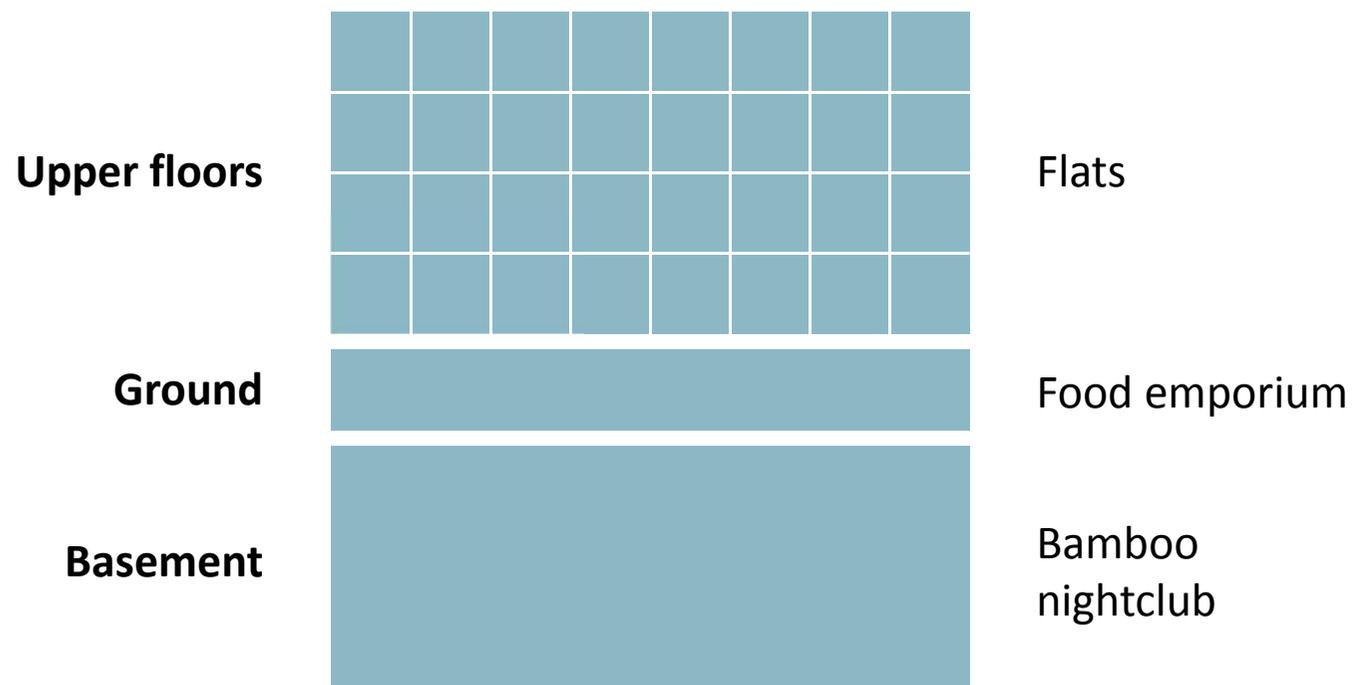


Points for discussion

- Use of BIM model for viability
- Is there a need for parallel or improved changes to PD rights in Wales?



To be Bamboosed Britannia scheme





Drivers for mixed use

- Planning
- Sustainability
- Challenges





Legal considerations

A. Construction / development stage

- Limitations of JCT standard amendments
- Completion arrangements
- Dovetailing of core construction contracts and fit out works
- Partial handovers

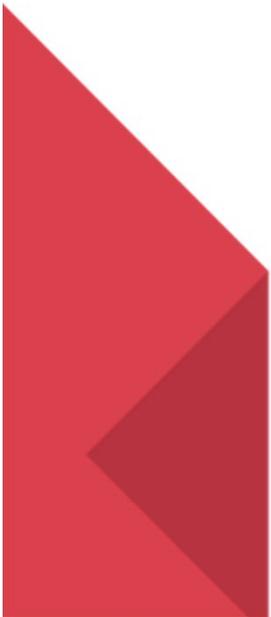




Legal considerations

B. Third party rights

- Access to sites
- Restricted working hours
- Neighbours
- Health and safety
- Consents for crane oversailing
- Rights of light





Legal considerations

C. Leasing terms

Control:

- Overall concept
- Whole complex maintained to high standard
- Range of tenants
- Manage different users
- Easy redevelopment

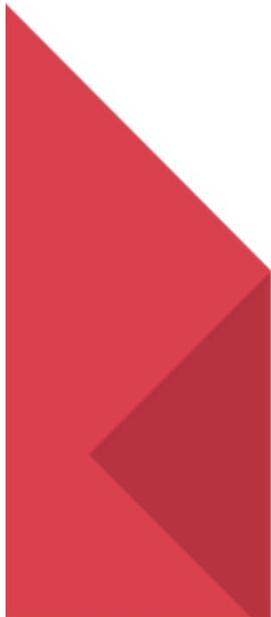




Legal considerations

C. Leasing terms cont.

- Unified ownership / management company
- Rents
- Permitted use and alterations
- Assignment
- Enfranchisement
- Restrictive covenants
- Service charge
- Redevelopment



Case study: The Brunswick, London





“Thinking at an early stage about how and for whom a neighbourhood will be managed opens up the greatest range of options and avoids assets becoming liabilities. Working through the design process with stakeholders and capacity building improves the chances of securing a good environment.”

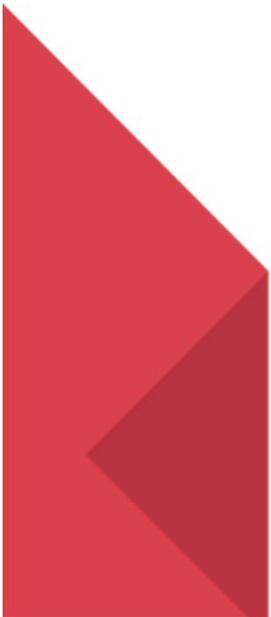
English Partnerships’ Union Design Compendium





Introduction

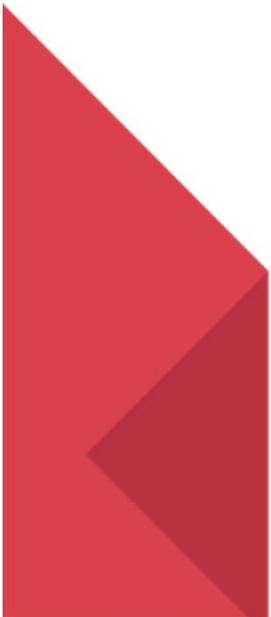
- What is BIM?
- Why?
- Practical issues
- Legal issues
- Conclusion





What is BIM?

- A virtual model of an entire construction project
- A digital representation of physical and functional characteristics of a facility
- A shared knowledge resource for information about the facility
- A reliable basis for decisions during its life cycle, from earliest conception to demolition





Levels of BIM

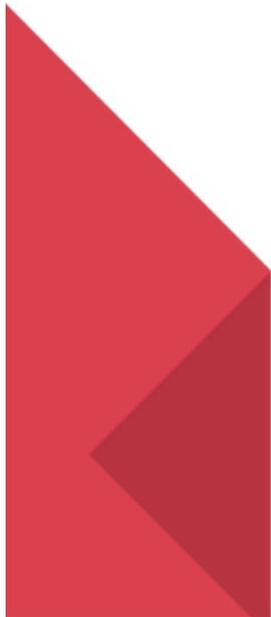
- BIM Level 0 is 2D drawings that may be created using a CAD system
- BIM Level 1 uses CAD to create 2D or 3D drawings that use a uniform approach in displaying data
- BIM Level 2 displays data in discrete BIM databases but there is not one single database for all information
- BIM Level 3 occurs where all the data is incorporated into one web-based system and can be accessed by all construction team members





BIM Dimensions

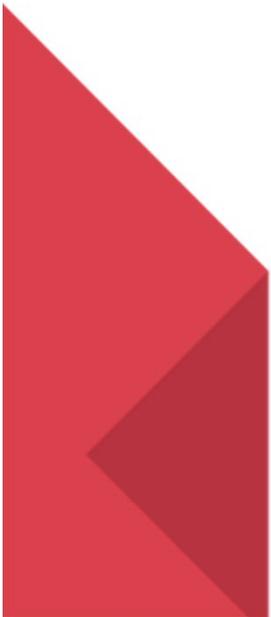
- 2D is 2 dimensional drawings
- 3D - uses 3D CAD
- 4D – uses 3D CAD and a database including programming information
- 5D – adds cost information to 4D BIM
- 6D – adds facility management information for use post-construction





Why?

- Projects still late and over budget
- Inaccurate design
- Changes add to cost
- Sustainability and carbon reduction
- Economic climate
- Political drive





Why?

England

- BIM Level 2 on central government projects by 2016





Why?

Wales

- CEW BIM Task Group has issued its report
- Construction Procurement Strategy Steering Group
 - All Welsh Government Department projects – Level 2 by 2015
 - All Welsh Government funded projects – Level 2 by 2016

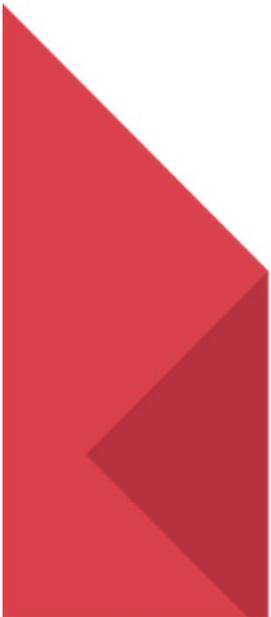




Why?

Benefits of BIM

- Construction build times are reduced as well as costs
- Changes to drawings can be incorporated straight into the 3D model
- If entire team involved early with model less scope for design errors or clashes within the design
- Ability to “build it twice”

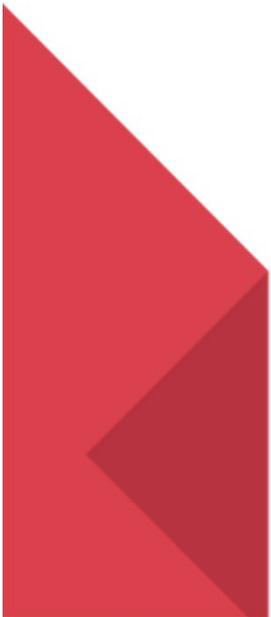




Why?

Benefits of BIM

- Long Term efficiencies – BIM Models facilitate the re-use of processes and information
- Post construction maintenance and facilities management
- Decommissioning at the end of its life cycle
- Government Soft Landings

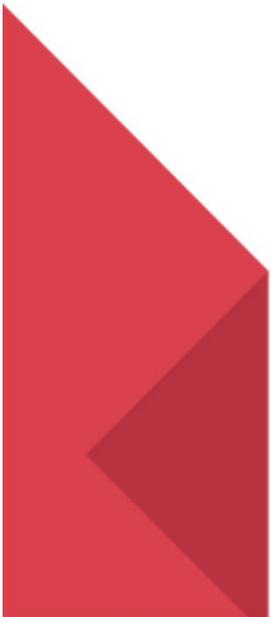




Practical Issues

Software and Clouds

- No single BIM software package and the Government has not selected one
- Interoperability issues
- File corruption and security of the cloud





Practical Issues

BIM Approach – Where do I start?

- Client BIM strategy
- BIM Execution Plan
- BIM Protocol





Practical Issues

New Consultant Role – the BIM Model Manager/the Information Manager

- The role will include organising access to data and ensuring security of data
- Experience required?
- Control over the supply chain to request information?
- Liability?
- Sole responsibility for building and coordination of the model?
- Who?





Legal Issues

Copyright IP

Current position

- Copyright dealt with under section 1(1)(a) of the Copyright Designs and Patents Act 1988
- Majority of documents produced in construction of a building will be protected as artistic works and attract copyright
- Ownership of copyright generally rests with the author but in a construction project eventually typically vests in the employer by way of a licence
- Copyright ownership resides with the building design team





Legal Issues

Copyright in a BIM world

- Level 2 – Licence may have to be wider – extension
- Level 2 – licences being granted in terms of design included in BIM model and the BIM model itself
- Level 3 – unclear where copyright ownership will reside in terms of the whole BIM model. Collaborative working raises the issue of joint ownership of copyright
- Levels 2 and 3 – Employer will need to ensure it obtains adequate licences or assignment of copyright in the BIM model





Legal Issues

Insurance in a BIM world

- Level 2 – PI Insurers will be cautious
- CIC Best Practice Guide for Professional Indemnity Insurance (Feb 2013):

“there are no issues with level 2 BIM which are sufficiently serious to require coverage restrictions for consultants....”

- Level 3 – may see move towards integrated project insurance





Legal Issues

Procurement in a BIM world

- Requirement for a BIM skilled team in OJEU notices
- BIM capability – at PQQ stage?
- BIM process envisages early contractor involvement





Legal Issues

Health and Safety in a BIM world

- Early design encouraged
- Real time compilation of health and safety file
- Tool for keeping health and safety file up to date post construction
- BIM model can show construction process





Legal Issues

Design Responsibility in a BIM world

- Current practice - each consultant has identified role and design responsibility matrix
- BIM will drive greater design integration
- Greater design integration the greater potential for uncertainty?
- Level 2 – some changes required to design responsibility
- Level 3 – significant changes required to design responsibility





Legal Issues

Construction Documents in a BIM world

- BIM will need to be addressed in:
 - Building contracts
 - Subcontracts
 - Consultant appointments
 - All construction related copyright licences
- Deal with it contractually and early on in the project
- A BIM protocol will be referred to in the construction documentation





Legal Issues

Construction Documents in a BIM world

- How does the BIM protocol interact with the underlying contract?
 - Terminology
 - No risk transfer
 - No contractual uncertainty created
 - Where does the BIM protocol sit in the contractual chain?

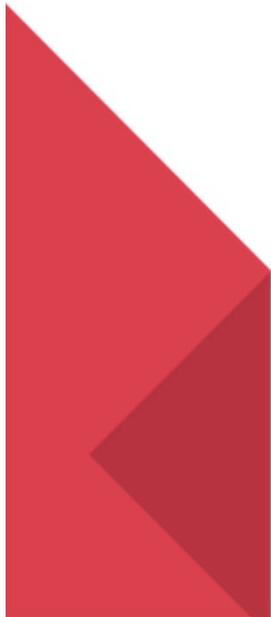




Legal Issues

CIC BIM Protocol – Key Features

- Level 2 focus
- Contractual document appended to each contract
- Parties to adopt industry standards and identify them
- Creates role of the Information Manager
- Data Drops
- IP provisions





Legal Issues

CIC BIM Protocol – NB!

- Has to be properly incorporated
- Crucial that appendices are completed
- Priority over other contract documents
- No design role for Information Manager
- IP Rights may require amendment



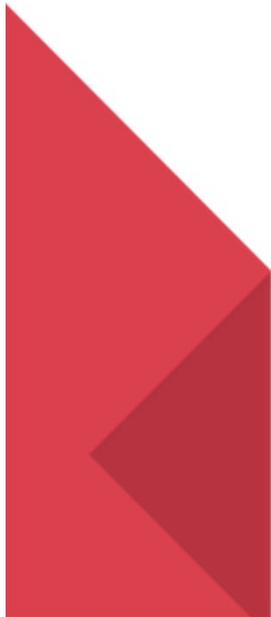


Legal Issues

Construction Documents in a BIM World – Where are we?

Building Contracts

- JCT Public Sector Supplement September 2011
- NEC April 2013 editions include a “How to use BIM” document - it includes guidance and z clauses
- CIOB Complex Projects Contract





Legal Issues

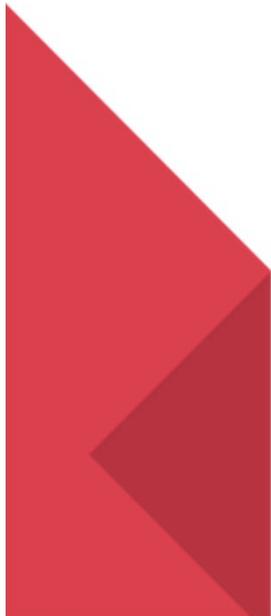
Construction Documents in a BIM World – Where are we?

Consultant Appointments

- RIBA latest version (October 2012). No BIM amendments
- CIC is revising its scopes of services

Other Relevant Documents

- RIBA Plan of Work 2013
- RICS statement in relation to the New Rules of Measurement



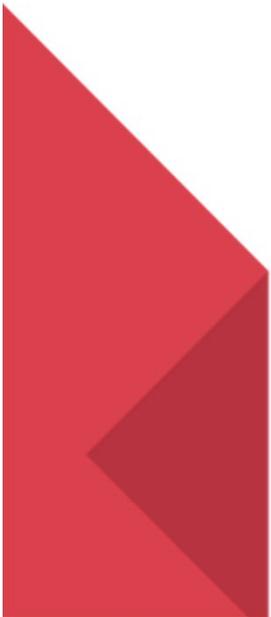


Legal Issues

Construction Documents in a BIM World – Where are we?

Relevant Industry Standards

- PAS 1192-2 – Core requirements for BIM Level 2
- PAS1192-3 – not yet published – operational phase of a project
- BS 1192:2007 – Collaborative production of architectural, engineering and construction information





Conclusion

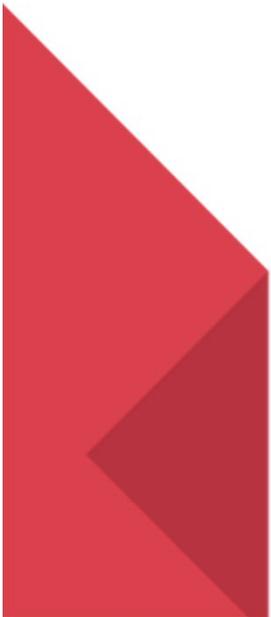
- BIM is here
- Clear policy guidance in England and Wales
- Level 2 legal effect is quite manageable
- Level 3 legal effect will be significant
- A lever to further push collaborative working agenda
- Good opportunity to finally link build with maintenance





Resources

- BIM Task Group – www.bimtaskgroup.org.uk
- CEW BIM Task Group – www.cewales.org.uk
- CIC BIM Protocol and Insurance Guidance – www.cic.org.uk
- PAS 1192-2 – www.shop.bsigroup.com





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