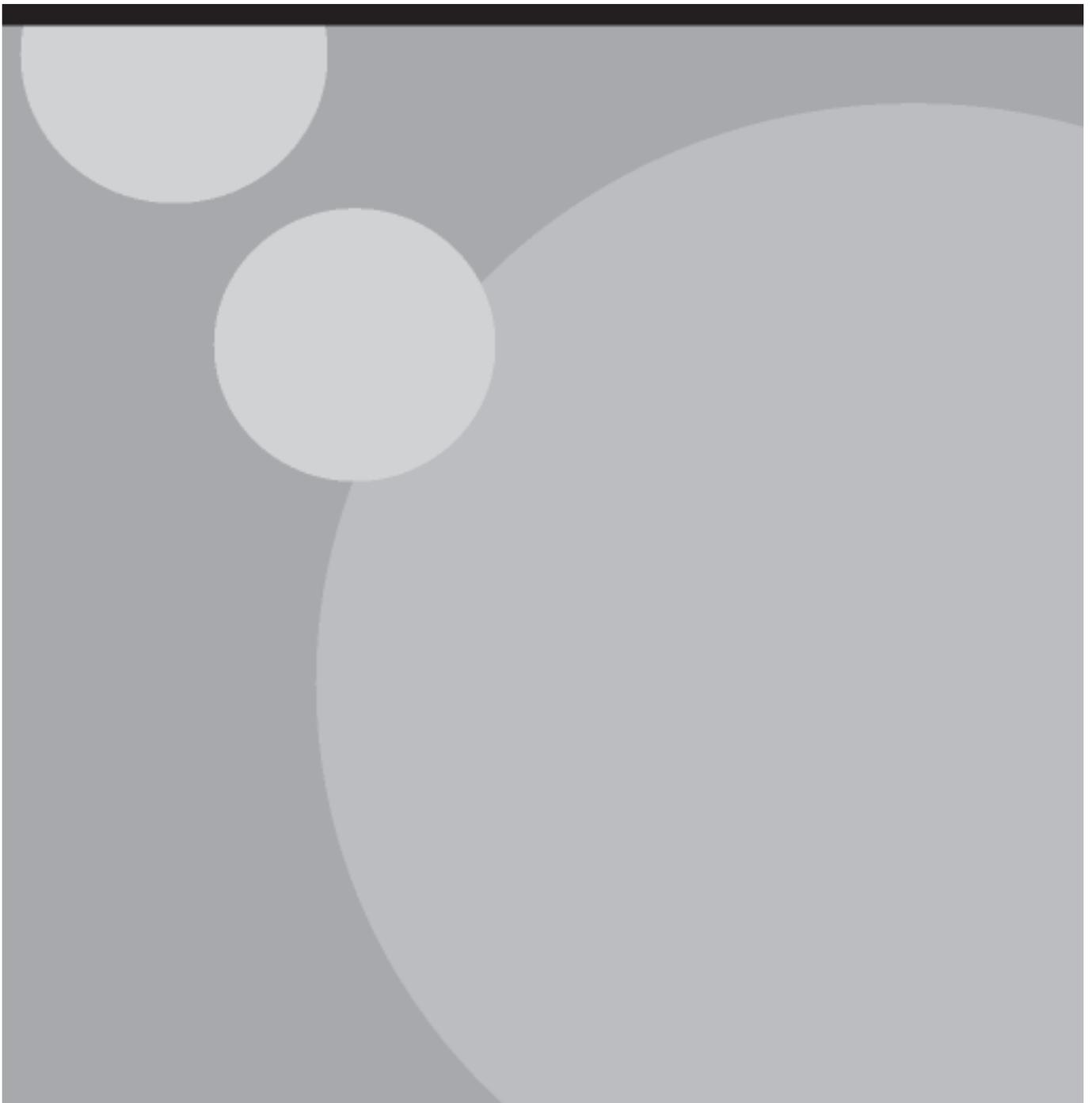




Mapping the interfaces between building control and other regulatory regimes which impact on a building

Final report – BD2733





Mapping the interfaces between building control and other regulatory regimes which impact on a building

Final report – BD2733

AECOM

**January 2012
Department for Communities and Local Government**

This research, commissioned by the previous government, is being published in the interests of transparency. The views and analysis expressed in this report are those of the authors and are not intended to reflect the current or future views or policies of the current government. The Department for Communities and Local Government is publishing this report alongside the 2012 consultation on changes to the Building Regulations as some of the findings in it are discussed in that consultation and used in the impact assessments that accompany it.

© Queen's Printer and Controller of Her Majesty's Stationery Office, 2012

Copyright in the typographical arrangement rests with the Crown.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk.

This document/publication is also available on our website at www.communities.gov.uk

Any enquiries regarding this document/publication should be sent to us at:

Department for Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 030 3444 0000

January 2012

ISBN: 978-1-4098-2900-3

Table of contents

Executive summary	4
1 Introduction	10
2 The construction process	15
3 Development of the regulatory mapping concept and project scenarios	17
4 Key findings	21
5 Conclusions	50
Appendices	56
Scenario 1: Domestic extension	57
Scenario 2: Domestic extension in a conservation area	58
Scenario 3: Small residential development	59
Scenario 4: A secondary School	60
Scenario 5: An office	61
Scenario 6: Case study of a mixed-use development	62

Executive summary

This report describes a research project commissioned by the Department for Communities and Local Government (DCLG) which was carried out by AECOM entitled 'Mapping the Interfaces between Building Control and other regulatory regimes which impact on a building'. The scope of the project was construction related regulations applying in England and Wales, and the project ran between January 2009 and March 2010.

The project aims were:

- To identify the regulatory regimes which have an impact upon the development, construction and refurbishment processes, in addition to the Building Regulations
- To identify site characteristics which give rise to further regulations such as flood risk and air quality
- To create maps for typical construction project types showing how these regimes interact for common types of building project
- To provide details of the issues which arise in areas where these regimes cross over with Building Regulations, in particular identifying areas of duplication and/or inconsistency.

The project was not intended to provide an end to end mapping of the construction process. Furthermore, the maps that have been created as a result of the project indicate interactions but are not a DCLG endorsed approach to construction and regulatory compliance.

Both building control regimes have been considered; provision of the service by the local authority building control body and provision by an approved inspector.

The research has involved a literature review, interviews with construction professionals, and feedback from regulatory bodies. The testing of any potential solutions to the identified issues was not within the scope of this project.

The project builds on the programme of work which DCLG is undertaking as part of the *Future of Building Control Implementation Plan*, and has the Building Regulations at its heart.

The results of this project may be used to clarify and simplify the process of building and to assist in the formulation of policy to generate closer co-operation between Building Regulations and Planning and other regimes.

The regulations which have been considered are listed in Section 1. The initial list of regulations was added to considerably during the course of the project. Some regulations have been added as a result of the selection of specific project scenarios (ie those relating to schools) and some are location specific (eg applying to buildings in London). The term "regulatory regime" has been taken to include the key considerations which a design team should comply with. Hence, local sustainability policies as applied to particular project examples have also been reviewed, as have the requirements placed by particular funders

that influence the project brief. The original intention was to specifically exclude sector guidance, such as the Building Bulletins for Schools, but as they have such a strong influence on the design process it seemed inappropriate to do so. Finally, whilst fully acknowledging that BREEAM¹ assessments are not a legal requirement, when required by planners, funders or clients they also influence the design process, so the implications of minimum BREEAM performance requirements were also considered.

The literature reviewed at the start of the project generally provided a high level of interactions and indicated key themes rather than identifying specific examples of issues. Such examples have been identified through our interviews instead.

After initial discussions with construction professionals, to get a better understanding of the arising issues, five project scenarios were chosen to be “mapped”. These were quite specific to reflect the complexity of a project brief; the triggers created by a particular type of site in respect of environmental regulations; and the influence of additional requirements set by planners and funding bodies. Often these additional requirements were the cause of technical issues. Whilst encompassing a range of situations, the selected projects are also intended to be typical project types, rather than rarely occurring scenarios:

- Scenario 1: A large extension and loft conversion to a house in London; permitted development rights do not apply.
- Scenario 2: A domestic extension in a conservation area which otherwise would be permitted development.
- Scenario 3: A development of 10 new dwellings located in an area with clear sustainability requirements applicable to a scheme of this size. Assumes an existing building on the site which would need to be demolished.
- Scenario 4: A secondary school funded under the Building Schools for the Future programme to show the impact of funding body requirements.
- Scenario 5: A new build office in central London which includes demolition, and addresses local requirements.

A more complex scenario was also reviewed, involving a mixed use community development with stringent sustainability requirements and a range of clients for the different buildings. The issues arising in this example have been included as a case study as they are not easily presented on a map.

Note, since the research was completed, the new Coalition Government has announced the termination of the Building Schools for the Future programme, and some of the specific issues which have been noted here will not apply going forward. However, some of the points identified in relation to schools will continue to be issues, and hence the school scenario is still included within this report.

¹ The Building Research Establishment Environmental Assessment Method (BREEAM)

Based on the collated information, the task of producing a “map” for typical construction projects presented the challenge of incorporating a significant amount of information in one diagram:

- A description of the key stages of the Building Control and Planning processes against the timeline of the RIBA² work stages (feasibility, outline design, detailed design, construction, handover and completion)
- The considerations within each regulatory regime at each key point
- The difficulties that might arise in dealing with these considerations
- The trigger points for the requirement to comply with a regulatory regime.

It was concluded that to convey all of the required information would need two documents per scenario:

1. A flowchart as a visual image of the project stages, the regulatory requirements and the interactions over the design and construction process
2. A table to show which regulatory document is produced by whom to achieve compliance, expanding on the flowchart from the process perspective.

The ‘issues’ that arise during a construction project have been identified and categorised within the regulatory and policy framework from a practitioner’s perspective, for both domestic and non-domestic projects, and construction at different scales.

The phrase ‘issues’ is a generic term used to describe matters such as:

- A direct conflict between regulatory requirements
- An overlap between regulatory requirements requiring identical or similar information to be provided or checked more than once
- A difficulty with a process that might introduce delays to the project programme
- A difficulty in obtaining agreement from enforcement agencies to proposed design solutions.

The intention has been to identify at which stage of the project and as a result of which regulatory interaction the issues occur. The issues arising were tested with architects, developers and other design team members typically engaged in these types of projects. Some feedback was also obtained from local authority building control body and development control teams. This feedback provided opinions and examples of interactions and issues, and also identified further regulatory requirements. Within the scope of the research, it has not been possible to test these documents more widely to establish the relative significance of issues and the frequency of their occurrence.

After this, the maps were circulated for feedback to policymakers and professional institutions, such as the Department for Business, Innovation and Skills, the Department for Communities and Local Government, the Department for Children, Schools and Families, the Department for Environment, Food and Rural Affairs, Chartered Institute of Architectural Technicians (CIAT), the Chartered Institute of Building Services Engineers (CIBSE),

² The Royal Institute of British Architects (RIBA) Plan of Work can be found here:
[http://www.architecture.com/Files/RIBAProfessionalServices/Practice/OutlinePlanofWork\(revised\).pdf](http://www.architecture.com/Files/RIBAProfessionalServices/Practice/OutlinePlanofWork(revised).pdf)

Construction Industry Council (CIC), and the Royal Institute of British Architects (RIBA). Representatives of approved inspectors have also commented.

The research, based on practical experience, has identified a wide range of issues which can arise as clients progress through the construction process. This should be useful to policy makers. The arising issues have been grouped into a number of key themes in Section 4:

- Building Regulations issues
- Building Regulations and Planning issues
- Building Regulations and other regulations
- Building Regulations and sector specific guidance
- Site specific issues
- Process and procurement issues
- The need for further information and guidance

The first conclusion is that the construction process is complex, despite only a limited range of regulations being mapped. This is because:

- site specific environmental issues need to be taken into account
- there are sector specific requirements, regulations and standards
- there can be minimum environmental performance requirements driven by funders
- regional planning requirements can be more demanding than local requirements
- there are particular and varying local requirements driven by planners, and
- local authorities are at different stages in developing their planning policies

Furthermore:

- more and more technical information is being required for outline planning when any project is most at risk of not proceeding
- there is a range of procurement routes, and the extent to which a contractor is involved at different stages will vary depending on the route
- selected design solutions can invoke additional regulatory requirements, for example consideration of air quality impacts in relation to use of biomass boilers

These points are expanded upon in the report.

Added to this, the economy as a whole will influence the dominant type of development work (new build vs refurbishment) and sector (commercial offices, schools or healthcare) at any given time. When there is a shift in the industry towards a particular sector, inevitably it takes time for all parties to come up to speed (developers, design teams, contractors and regulators), especially if there is a wealth of sector specific guidance and new procurement routes. More support is needed when major initiatives such as the Building Schools for the Future programme are launched, in recognition that some teams not familiar with the sector will be undertaking projects due to a decline in their more typical work streams and regulators also require assistance.

The size of the development also influences the ease of regulatory compliance. Where a large scale development is being undertaken, the project team will include a range of advisors. Smaller scale projects will naturally have a much smaller, and typically less expert, team. At the domestic scale, a homeowner wishing to construct an extension typically engages a builder, but no architect, surveyor or project manager, or they may self-manage a project. Understanding the requirements and complying with the relevant regulations is therefore harder for those working on small or one-off projects.

Building Regulations are set nationally as broad statements of requirements which enable building control bodies to adopt a flexible approach to determining compliance. The Building Regulations are supported by Approved Documents which set out a means, but not the only means, of compliance with the Regulations. Some comments have been received in relation to Approved Documents and how they are perceived.

There are three possible building control routes – via the local authority building control body, via a Partnership Authority Scheme³, or via a private sector approved inspector. Having three routes does not complicate the building control process as such, as each body has clear routes to follow, but several building control bodies may be involved in some cases. Furthermore, one building control route can be followed for the base construction of a building with another adopted for the fit-out and/or later refurbishment. Although not the intended focus of this project, a number of issues have been raised regarding the building control process. One issue is the perception of a difference in experience depending on whether the local authority building control body or an approved inspector is engaged.

Typically a builder will choose to adopt a Building Notice route in terms of the Building Regulations application, requiring less information than a Full Plans route. However, in most cases, a Building Notice route will require more input from the building control body. We are aware that DCLG intends to review the scope of projects for which the Building Notice route can be used.

The green agenda is rapidly developing and there is a lack of clarity about in which areas the two regimes (planning and building control) should set standards, planning allowing local variations and building control applying national standards; this clarity is needed.

Homeowners as clients are generally not aware that planning and building control require separate applications. The introduction of permitted development rights for minor works can lead to a misconception that all regulations have been complied with, whereas the Building Regulations and other regulations still apply. To address this issue, at the project outset some local authorities adopt a proactive approach to providing information on both planning permission and Building Regulations requirements at the same time; this is a good model.

The confusion relating to the need for planning and/or Building Regulations compliance is being reported by some local authorities as worsening following the significant expansion of

³ The Partnership Authority Scheme allows a client to work with the same local authority team in different areas of the country in respect of the first stages of the Building Control service

permitted development. DCLG should consider this in light of plans to further extend permitted development rights.

Better liaison or shared knowledge between two local authority departments, development control and building control, could assist in overcoming an issue which sometimes arises whereby an application meets the policy requirements so planning permission is given, only for the applicant to discover later that the scheme does not comply with the Building Regulations. A new application would need to be made to development control if any changes to comply with the Building Regulations impacted on planning issues. If development control officers had a better knowledge of Building Regulations at an overview level they would be able to identify early in the application process any risk of breaching the Building Regulations. Alternatively if both the development control and the building control case officers were present at a pre-application meeting any issues relating to policy and to the Building Regulations could be discussed and potential conflicts could be identified from the outset.

With regard to regulatory compliance, often the issue for the design team is not the need to provide the same information to more than one body (duplication) but the timing of responses from different bodies, causing delays whilst there is a need to maintain the project's momentum.

The interactions between the Building Regulations and other regulations have also been considered. Issues have been identified in relation to air quality, fire safety, and local acts. Other regulations have been reviewed and issues identified even though there is no clear link to the Building Regulations.

Site specific legislation was also reviewed. The most apparent links are between ground conditions and Part A - Structures, and between flood risk, drainage strategies and Part H – Drainage. The main focus on sector specific regulations, tools and guidance related to schools; particular comments were received in relation to Building Bulletins.

The final key theme that emerges relates to the extent and sources of information. The Planning Portal is an excellent source of information for householders and building professionals, but as householders have not been approached directly in the course of this research (always a difficult group from which to obtain feedback) it has not possible to comment on whether knowledge of the website is widespread, or whether the wider audience is aware of the information on Building Regulations and Planning matters contained therein. Better information is needed for small builders and regulators and the outputs from this project could contribute to a communications programme targeted at these groups.

1 Introduction

1.1 Background

This report describes a research project commissioned by the Department for Communities and Local Government (DCLG) which was carried out by AECOM entitled 'Mapping the interfaces between Building Control and other regulatory regimes which impact on a building'. The scope of the project was construction-related regulation in England and Wales, and the project ran between January 2009 and March 2010.

The project's purpose was to define the interfaces between building control and other regulatory regimes in the context of domestic and non-domestic construction projects. Once the interfaces had been understood, the project sought to identify situations that can lead to issues arising. These issues include a lack of clarity regarding the compliance requirements, duplication of material which needs to be submitted to different regulatory bodies, and regulatory requirements which lead to an overall lack of project efficiency. The project builds on the programme of work which DCLG is undertaking as part of the *Future of Building Control Implementation Plan*, and it has the Building Regulations at its heart.

The project aims were:

- To identify the regulatory regimes which have an impact upon the development, construction and refurbishment processes, in addition to the Building Regulations
- To identify site characteristics which give rise to further regulations such as flood risk and air quality
- To create maps for typical construction project types showing how these regimes interact for common types of building project
- To provide details of the issues which arise in areas where these regimes cross over with Building Regulations, in particular identifying areas of duplication and areas of inconsistency.

The project was not intended to provide an end to end mapping of the construction process. Furthermore, the maps that have been created as a result of the project indicate interactions but are not a DCLG endorsed approach to construction and regulatory compliance.

Both building control regimes have been considered - where the building control function is provided by the local authority building control body, and where it is provided by the appointment of an approved inspector (a private sector building control provider). Reference has also been made to the Partner Authority Scheme whereby the developer can choose to work with a local authority building control body from another area, with only the site inspections being carried out by the local authority building control body.

The research carried out to produce these documents has involved a literature review, interviews with construction professionals, and feedback from regulatory bodies. The testing of any potential solutions to the identified issues was not within the scope of this project.

The results of this project may be used to clarify and simplify the process of building and to assist in the formulation of policy to generate closer co-operation between Building Regulations and Planning and other regimes.

1.2 Project origins

Planning, in particular, has been identified by Government as an area where closer co-operation with Building Regulations would be welcomed. Examples of this include signposting from Planning to Building Control on smaller projects and the integration of building control expertise earlier in the development process, in particular to assist in meeting environmental objectives or achieving inclusive design principles. Within the *Future of Building Control* consultation⁴ published by DCLG in March 2008, a question was posed regarding whether or not planning and building control could be better joined up. This project builds from that concept.

Obtaining a clearer picture of the nature of the problem as it concerns the industry at all levels will assist DCLG's understanding of the opportunities to simplify the process of construction, ensure compatibility with other regulatory regimes, eliminate duplication and ensure that developers, builders and homeowners are aware of all relevant regulations and are guided through the process in a clear and logical manner.

1.3 Research undertaken

The research which took place to inform the selection of project examples, development of maps, and the identification of arising issues was as follows:

- Gathering of background knowledge on technical and procedural issues through a literature review and interviews with in-house AECOM experts.
- The development of the regulatory mapping concept and ways to present the maps.
- Initial external interviews with building control experts.
- The selection in conjunction with DCLG, of five project scenarios to be mapped,
- The creation of a regulatory map (flowchart) for each of these project scenarios.
- Preparation of a table of relevant regulations and an indication of responsibilities to support the processes shown in each map.
- Further development of the suite of documents (map and table) for each project scenario, through interviews with construction professionals to provide a background document from which key issues could be taken and located on each process map.
- Engagement with regulatory bodies to seek their feedback on the draft documents.
- Completion of the document sets.

The emphasis has been on gathering the views of construction professionals rather than from building control bodies.

⁴ <http://www.communities.gov.uk/publications/planningandbuilding/future>

AECOM is a multi-disciplinary consultancy, and the European operations deliver consultancy services in relation to Buildings, Sustainability, Environment, Planning Design and Development, Programme Management, Transportation, and Water. Therefore it was possible to interview in-house staff who are sector specialists (offices, education etc) and those who are technical specialists (air quality, health and safety etc) at the start of this project to provide an overview of issues arising and their causes.

This report comprises the main output and highlights to DCLG the key issues arising within and between the Building Regulations and other regulatory regimes and the nature of these issues. It includes examples of these issues together with the process maps and tables of regulations for the five project scenarios. A case study for a sixth project scenario is also included.

1.4 Regulatory regimes

The initial list of regulatory regimes to be considered during the project is shown below. AECOM were invited to consider other relevant regulations in addition to these.

- The Building Regulations (see below)
- The Planning Regulations - Conservation Areas, Listed Buildings (see below)
- The Contaminated Land (England) Regulations 2006
- Control of Substances Hazardous to Health (COSHH) Regulations 2002
- The Construction (Design and Management) Regulations 2007
- Electrical Regulations (see below)
- Gas Safety (Installation and Use) Regulations 1998
- Health and Safety Legislation - The Health & Safety at Work Act 1974 (HASAWA)
- The Regulatory Reform (Fire Safety) Order 2005
- Water Regulations (see below)
- Waste Regulations (see below)
- The Code for Sustainable Homes (the Code)

It is acknowledged that the Code for Sustainable Homes is not a regulation, although DCLG have mandated that all new homes are rated against the Code since May 2008 so that every new home owner is aware of whether their home exceeds Building Regulation standards in the ways set out in the Code.

In considering the interactions between Building Regulations and other regulations, our remit was to take into account all the parts as follows:

- | | |
|--------|--|
| Part A | Structure |
| Part B | Fire Safety |
| Part C | Site Preparation and Resistance to Contaminants and Moisture |
| Part D | Toxic Substances |

Part E	Resistance to the Passage of Sound
Part F	Ventilation
Part G	Hygiene
Part H	Drainage and Waste Disposal
Part J	Combustion Appliances and Fuel Storage Systems
Part K	Protection from Falling, Collision and Impact
Part L	Conservation of Fuel and Power
Part M	Access to and Use of Buildings
Part N	Glazing – Safety in relation to Impact, Opening and Cleaning
Part P	Electrical Safety

The initial list of regulatory regimes has been added to considerably in the course of the project. Some regulations have arisen as a result of the selection of specific scenarios (eg The Education (School Premises) Regulations 1999, The Party Wall Act 1996, The Planning (Listed Buildings and Conservation Areas Act) 1990), and others are location specific (eg the London Buildings Acts (Amendments) Act 1939, the Rights of Light Act 1959). Some additional regulations had more general applications (eg The Energy Performance of Buildings Regulations 2007, The Disability Discrimination Act 1995, The Site Waste Management Plan Regulations 2008). The regulatory regimes were those currently applicable. A full list of the additional regulations is provided below:

- The Air Quality Standards Regulations 2007
- The Building Act 1984
- The Control of Asbestos Regulations 2006
- The Control of Lead at Work Regulations 2002
- The Controlled Waste Regulations 1992
- The Disability Discrimination Act 1995
- The Education (School Premises) Regulations 1999
- The Electrical Supply Regulations 1988
- The Energy Performance of Buildings Regulations 2007
- The Environmental Protection Act 1990
- European Air Quality Framework Directive 2008
- Hazardous Waste (England and Wales) Regulations 2005
- The Highways Act 1980
- The Home Information Pack Regulations 2009
- The London Building Acts (Amendment) Act 1939
- Management of Health & Safety At Work Regulations 1999
- The Party Wall Act 1996
- The Planning (Listed Buildings and Conservation Areas Act) 1990
- Rights of Light Act 1959
- The Site Waste Management Plan Regulations 2008
- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999
- Water Supply (Water Fittings) Regulations 1999

- The Working at Height Regulations 2005

Some of the legislation has been identified in the context of a particular scenario through discussions with stakeholders and it has not necessarily been considered for all of the scenarios.

Note, since the research was undertaken the new Coalition Government has announced changes to the requirement for a Home Information Pack, such that these will no longer be required to accompany a house sale. The requirement for an Energy Performance Certificate still applies.

The term “regulatory regime” has been taken to include the key considerations which a design team should comply with. Hence, local sustainability policies as applied to particular project examples have also been reviewed, as have the requirements placed by particular funders that influence the project brief. Examples are housing associations requiring Secured by Design, Housing Quality Indicators and Lifetime Homes standards; or the Department for Children, Schools and Families requiring compliance with their Building Bulletins. Although the original intention was to specifically exclude sector guidance, such as the Building Bulletins for Schools, they have such a strong influence on the design process that it was deemed inappropriate to do so.

Finally, whilst fully acknowledging that BREEAM⁵ assessments are not a legal requirement, when required by planners, funders or clients they also influence the design process, so the implications of minimum BREEAM performance requirements were also considered. With the introduction in 2008 of a mandatory Post Construction Review to receive full certification, the influence now extends throughout the construction process.

⁵ The Building Research Establishment Environmental Assessment Method (BREEAM)

2 The construction process

2.1 Literature review

Each of the documents identified by DCLG for review to some extent discussed the interrelationships and issues arising between Building Regulations and other regulatory or legislative documents and regimes, and the resulting impact on industry and enforcement bodies. The main findings related to comments on the Building Regulations, Approved Documents and second tier documents (documents referred to within the Approved Documents which provide guidance on a means of compliance); and comments on the interaction with planning, see below.

The documents generally provided an indication of interactions and indicated key themes at a high level rather than identifying specific examples of issues. Such examples have been identified through our interviews instead. The exception to this was a DCLG commissioned report specifically investigating the links between Planning and Building Regulations entitled *The Building Regulations System and the Planning System - A Better Regulation Approach* (2006)⁶.

The key points from the literature review can be summarised as follows:

- When complying with the Building Regulations, the design team will often refer to the supporting Approved Documents and from there they may be referred to third party guides such British Standards, Robust Details and Trade Associations guidance. The need to consider several sets of documents can be regarded as complex
- The increase in sustainability legislation is making development (as well as control) much more complicated and simplification is needed to improve sustainability and increase the rate of construction
- If Building Regulations are to be used as part of a strategy to deal with climate change, it needs to be clear what the overall strategy is, how the Building Regulations fit into it, and the role of other policy instruments.

There is a substantial overlap in subject matter between planning and building control, as both seek to control the erection and extension of buildings. In particular:

- Building Regulations are seen as a minimum standard, the lowest common denominator achievable everywhere which is why some local planning authorities are setting standards which go beyond Building Regulations.
- Planning should deal with broad policy and avoid technical issues that are covered by the Building Regulations. The amount of technical conditions being added to planning permissions is forever increasing. Such technical matters should be left to the Building Regulations where they can be effectively enforced by building control professionals.
- For some aspects, the planning system is better set up than Building Regulations to encourage sustainability. Whilst Building Regulations look at individual buildings,

⁶ <http://www.rmd.communities.gov.uk/project.asp?intProjectID=12290>

greater CO₂ reductions might be realised by considering the site as a whole (as viewed by planning) rather than via increases in Part L requirements. For example, Building Regulations allow centralised heating and cooling systems but they do not specifically encourage an integrated low carbon strategy for a whole site or across sites, whereas planning policy may do.

- When developing an energy strategy, this is influenced by policy and targets set by planning authorities in relation to renewable energy and energy related issues, which are able to consider the whole site, and by Part L of the Building Regulations which specifies the worst case performance for individual buildings with respect to energy use. It was commented by an industry member that there is no reason why a developer could not submit a whole site strategy showing compliance with Part L providing the backstop values were achieved for each individual dwelling.

Similar views were expressed during the stakeholder interviews.

2.2 Description of the construction process

To provide a suitable construction timeline, the RIBA⁷ Plan of Work was used:

- Preparation (Stages A and B)
- Design (Stages C, D and E)
- Pre-construction (Stages F, G and H)
- Construction (Stages J and K), and
- Post Construction (Stages L and M).

AECOM also conducted interviews with a range of in-house experts (sector specialists and technical specialists) to provide information about typical construction project types, the issues which can arise, and the stage. This informed the first stage map development.

⁷ The Royal Institute of British Architects (RIBA) Plan of Work can be found here: [http://www.architecture.com/Files/RIBAProfessionalServices/Practice/OutlinePlanofWork\(revised\).pdf](http://www.architecture.com/Files/RIBAProfessionalServices/Practice/OutlinePlanofWork(revised).pdf)

3 Development of the regulatory mapping concept and project scenarios

3.1 Introduction

During the literature review, it was found that maps of processes and regulatory interactions did not exist already, although it was recognised that Partnerships for Schools have developed a series of maps to accompany the Building Schools for the Future process. Prior to producing maps, it was necessary to select appropriate building projects.

3.2 Project scenarios

In conjunction with the Department for Communities and Local Government, five project scenarios were chosen to be “mapped” in terms of the regulations and to capture the issues faced by the client/developer. The selected project types were quite specific to reflect the complexity of a project brief; the triggers created by a particular type of site in respect of environmental regulations; and the influence of additional requirements set by planners and funding bodies. This is because these additional requirements are often the cause of technical issues.

Whilst encompassing a range of situations, the selected projects are also intended to be typical project types, rather than rarely occurring scenarios. Scenario 1 is the simplest model.

- Scenario 1: A large extension and loft conversion to a house in London; permitted development rights do not apply.
- Scenario 2: A domestic extension in a conservation area which otherwise would be permitted development.
- Scenario 3: A development of 10 new dwellings located in an area with clear sustainability requirements applicable to a scheme of this size. Assumes an existing building on the site which would need to be demolished.
- Scenario 4: A secondary school funded under the Building Schools for the Future programme to show the impact of funding body requirements.
- Scenario 5: A new build office in Central London which includes demolition, and addresses local requirements.

A more complex scenario was also considered, involving a mixed use community development with stringent sustainability requirements and a range of clients for the different buildings. The issues arising in this example have been included as a case study as they are not easily presented on a map.

Note, since the research was completed, the Coalition Government has announced the termination of the Building Schools for the Future programme, and some of the specific issues which have been noted here will not apply going forward. However, some of the

points identified in relation to schools will continue to be issues, and hence the school scenario is still included within this report.

3.3 Development of maps

Based on the collated information, the desire to produce a “map” for typical construction projects presented the challenge of incorporating a significant amount of information in one diagram:

- A description of the key stages of the building control and planning processes against RIBA work stages.
- The considerations within each regulatory regime at each key point.
- The difficulties that might arise in dealing with these considerations.
- The trigger points for the requirement to comply with a regulatory regime.

It was concluded that all of the required information could not be conveyed in one document per scenario and, as a result, each “map” consists of two separate documents. Even then, ideally the flowchart needs to be presented at A2⁸ size.

The first document provides a visual image of the project stages, the regulatory requirements and the interactions over the design and construction process. It illustrates the complexity even at the level of the domestic extension. The issues which arise are illustrated by text bubbles; these are the key focus in terms of the findings of the project.

The second document is a table to show which regulatory document is produced by whom to achieve compliance. It expands on Document 1 from the process perspective.

3.4 The nature of the issues

The ‘issues’ that arise during a construction project have been identified and categorised within the regulatory and policy framework from a practitioner’s perspective, for both domestic and non-domestic projects and for construction at different scales.

The term ‘issues’ has been selected to describe a range of matters encountered such as:

- A direct conflict between regulatory requirements.
- An overlap between regulatory requirements requiring identical or similar information to be provided or checked more than once.
- A difficulty with a regulatory process that might introduce delays to the project programme.
- A difficulty in obtaining agreement from enforcement agencies to proposed design solutions.

Issues arise from both the technical (mostly) and the administrative perspectives, borne out of the complexity and volume of regulations and requirements with which the building industry has to contend. The issues are diverse and are not only present between the Building Regulations themselves (to a minor extent), but they also occur as a result of

⁸ A2 size = 420 x 594 mm

interactions with other regulations and guidance that shape the building industry for both domestic and non-domestic projects. Therefore the intention has been to identify not just the stage of the project, but also under which regulatory interaction the issues occur. The issues arising were tested with stakeholders.

3.5 Stakeholder engagement

Once the document sets were drafted, AECOM consulted with architects, developers and other design team members typically engaged in the types of projects described in the scenarios. Some feedback was also obtained from Building Control and Development Control teams. The feedback provided opinions and examples of interactions and issues, and also raised further regulatory requirements. Within the scope of the project, it has not been possible to test these documents more widely to establish the relative significance of issues and the frequency of their occurrence.

Subsequently, the documents were circulated for feedback to policymakers and professional institutions, such as the Department for Business, Innovation and Skills, the Department for Communities and Local Government, the Department for Children, Schools and Families, the Department for Environment, Food and Rural Affairs, Chartered Institute of Architectural Technicians (CIAT), the Chartered Institute of Building Services Engineers (CIBSE), Building Control Alliance, ACAI, Construction Industry Council (CIC), and the Royal Institute of British Architects (RIBA). Representatives of approved inspectors have also commented.

3.6 The final maps

The final maps are included in the Appendices scenario 1 – 5

- Scenario 1 – Map and table for a Domestic Extension/Loft Conversion
- Scenario 2 – Map and table for a Domestic Extension in a Conservation Area
- Scenario 3 – Map and table for a New Build Small Residential Development
- Scenario 4 – Map and table for a New Build Secondary School
- Scenario 5 – Map and table for a New Build Office

The mixed-use development case study is included as Scenario 6.

These maps have been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Maps have been based on specific project types and in no way should be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. As noted above, issues have been identified through interviews and by their very nature may be subjective.

It should be reiterated that this exercise did not attempt an end to end detailed mapping process so there may be gaps, nor did it set out to produce a DCLG approved process.

Rather it is a means of identifying and depicting issues based on people's interpretation and experience.

The issues arising from the construction process and compliance with regulations have been identified and grouped into themes to enable the key findings to be determined, see Section 4.

During our consultation stage, it was found that not everyone was familiar with the RIBA Plan of Work, and in their view it would be preferable to map the construction processes against key project milestones (feasibility, outline planning, detailed planning, construction phase, regulatory sign off, and occupation).

3.7 The Penfold review

In their response the Department for Business, Innovation and Skills referred to the Penfold Review which was taking place at the time. The review was proposing to explore whether the process for obtaining non-planning consents is delaying or discouraging businesses from investing and to assess the impact of non-planning consents with a view to identifying areas where there is scope to support investment by streamlining the process. The initial findings and recommendations were due to be reported in spring 2010. The Department for Business, Innovation and Skills confirmed that some of the issues which had been identified in this project had also been highlighted by contributors in response to their call for evidence.

4 Key findings

4.1 Introduction

To facilitate analysis of the findings across the range of different construction sectors (domestic and non-domestic) and project types (new build and extensions) the issues which were raised have been grouped into a number of key themes. These are discussed in this section.

The identified key themes are:

- Building Regulations issues
- Building Regulations and planning issues
- Building Regulations and other regulations
- Building Regulations and sector specific guidance
- Site specific issues
- Process and procurement issues
- The need for information and guidance

4.2 Building regulations issues

4.2.1 GENERAL BUILDING REGULATIONS ISSUES

We found that although all parts of the Building Regulations have equal status, some parts are often perceived by individual design team members to be key in terms of compliance when determining the design strategy, even though all of the Regulations would ultimately be satisfied. Clients may receive conflicting advice from different regulators creating an impression that some regulations must be strictly adhered to whereas others allow flexibility.

There can be differences of interpretation between different building control bodies and also between different individuals within the same building control body. Some clients have experienced more than one building control officer attending site. This may be due to a job share situation, which appears to be becoming more common, or to holiday/sickness cover. An industry member has commented that this can also be an advantage as it does provide a certain amount of self-auditing with each surveyor getting an insight into decisions made by colleagues.

Each Part of the Building Regulations is supported by a statutory guidance document or documents known as Approved Documents which describe ways of meeting the requirements of the Regulations. With respect to the role of Approved Documents we found that the function of Approved Documents is not necessarily clear whether in terms of their use as a sole means of satisfying Regulation or their inappropriate use as target (rather than minimum) design standards. One benefit of using Approved Documents is that they provide an approach to meeting Building Regulations which is clearly defined with set procedures, unlike planning policy which is open to interpretation. However the Building

Regulations themselves are broad statements of performance-based requirements which can be met in ways other than those described in the Approved Documents. Some mistakenly believe that the term 'Approved Document' implies that the prescribed manner is the only way to comply with Building Regulations. Design teams should be aware that other supporting documents, such as British Standards, are available that provide detailed and practical information on how to achieve the requirements. An example was given of work including a loft conversion. The characteristics of an individual dwelling may make it difficult to 'comply' with the suggested approach set out in the Approved Documents and an alternative means of compliance may need to be demonstrated. However, it was reported that Building Control Bodies tend to attempt to apply the Approved Documents rather than being open to alternative suggestions regarding a compliant approach.

The Approved Documents are designed to offer ways of complying for common situations. However in some of the Approved Documents it is perceived that there is insufficient guidance to enable designers to work out an alternative means of compliance. Approved Documents are increasingly referring to what are known as "second tier" references, eg technical or procedural documents produced by third parties, or in some cases by DCLG, which undergo their own cycle of updating and reissue independent of the Approved Document update process. Some stakeholders have requested that the Approved Documents and associated second tier references are daisy chained, ie intrinsically linked. However, there are both policy and practical implications which would make this unworkable in every case. The second tier documents may often go beyond the issues contained within the Approved Documents, or refer to best practice rather than regulatory minimum standards. Also the revision cycle for a second tier reference (including due diligence, peer review and internal committee clearance etc) may be incompatible with the Approved Document update revision cycle (consultation and impact assessment). In some cases the production process for a second tier reference can result in it being already out of date when it is published with regards to regulatory changes that have occurred since the draft was produced.

With regards to building control a number of contractual issues were raised, relating to the role of building control, rather than how they actually carry this role out. Homeowners may not understand that building control does not provide a clerk of works (ie supervisory) function, or comments on the quality of materials or products used (unless non-compliant). A building control officer's role is to confirm regulatory compliance; however they may choose to offer advice if they believe a design is over-specified. Conversely, during the construction process, there can be no guarantee that buildings will be built as shown on plans and specifications, and substitution with lower performance components may take place to reduce costs. There is often no way (and indeed no requirement) for building control to identify this as long as the as-built scheme is compliant with the regulations. Use of the robust details/accredited details route would reduce such incidences. Problems can be caused by a building control officer issuing change instructions directly to the builders when visiting a site, rather than via the architect or client/contract administrator. Strictly speaking, only the contract administrator can issue site instructions and then only once the client has agreed to the time and cost implications of the proposed changes. An alternative view was put forward that the building control officer, rightly, expects the builder to take

responsibility for conveying any changes required to the client/architect and that this should not result in a problem if the changes have been formally written down.

One criticism put forward is that when structural issues arise and are outsourced by a building control body to an external consultant, the latter may often take a while to come back with comments. By then the structure, eg a domestic extension could already be built and it would be too late to make design changes without having to take it down. If a Full Plans route is followed instead, additional supporting information may be required from other parties, and time and consideration needs to be given to these at the outset of a project.

An opinion was expressed that building control bodies do not have sufficient resources to enforce the Building Regulations, particularly in relation to areas such as Parts L and F.

We have been informed of instances where Completion Notices were not submitted to the local authority. Having become aware of this the local authority will aim to 'sign off' the work. If shortcomings are discovered at this point, enforcement is difficult due to the time elapsed. Furthermore the homeowner can find it difficult to bring a builder back to site once they have been paid and moved on. There is no timeframe stated within the Regulations within which the local authority must issue the Completion Certificate following completion of works and receipt of the relevant documentation. In some instances, the local authority may not have an efficient process in place, resulting in multiple requests by the architect or client for the Completion Certificate and a number of months passing before it is finally issued. Lack of a Completion Certificate will become an issue when a house is subsequently sold. There are timeframes within which an approved inspector must issue a Final Certificate.

Perceived differences between local authority building control bodies and approved inspectors are discussed further in section 4.7.1.

Some particular comments were made with respect to Part L but consideration of these is not within the scope of the project.

4.2.2 ISSUES BETWEEN BUILDING REGULATIONS

Interactions have been identified between Ventilation (Part F) and Passage of Sound (Part E), and Conservation of Fuel and Power (Part L) and Hygiene (Part G). Some highlighted issues are presented below, it is noted that proposed changes may address these:

- Within schools, a conflict can arise between the use of a sophisticated ventilation and control strategy to meet the acoustic requirements, and a naturally ventilated solution which may be more suited to the building users and which they could find acoustically acceptable. Mechanical ventilation can also result in greater energy use (Part L) than would otherwise be required. An integrated design solution is required.

- Approved Document F is focused on the air change rate requirements to achieve good indoor air quality. In complying with Approved Document L, the design team will need to consider the impact of air change rates on the risk of overheating.

4.3 Planning issues

4.3.1 INTERACTION WITH BUILDING REGULATIONS

We identified a number of issues arising from the interactions between the Building Regulations and the planning system. General points are made below; other comments are grouped by theme:

- There is a belief that if planning policy accelerates standards that go beyond Building Regulations then there are no real 'standards' against which to measure compliance, ie this negates the need for Building Regulations at all. Examples given are the requirement for sustainable urban drainage schemes which goes beyond that required by Part H, or the need to achieve higher levels of energy efficiency beyond the requirements of Part L.
- A change in design which requires Building Regulations approval could also require resubmission of a planning application and the associated time period for consultation and a decision. For this reason, some changes may be made to the initial proposals on site but not be followed up with formal notification.
- The green agenda is rapidly changing. It is not entirely clear who should be setting standards, what should be incorporated into national Building Regulations, and what should be included within planning and therefore be subject to a variation in the required standards across the country. There is a lack of clarity about what the two regimes (planning and building control) are expected to do and who can ask for what. More Building Regulation compliance issues are likely to arise where an existing building is being converted or refurbished than in the case of a new development. Work to existing buildings can also create planning issues, for example many developers want to run gas pipes down the outside of a building, and the planners may not allow this due to concerns regarding safety.

Interactions between planning and Part B, and planning and Part L

Insufficient provision of early stage information in relation to the proposed fire strategy (Part B) may cause a planning issue when the strategy is subsequently developed further, eg to include external dry risers or additional external staircases whose visual impact is deemed unacceptable, and therefore require negotiation.

One area where local authorities vary in their requirements is sustainability and renewable energy. Local planning authorities can vary greatly in the level of detail they require from the design team with respect to the energy strategy or the percentage of renewable energy contribution they require and whether they express this target in terms of energy or CO₂. This can arise if the local planning authority lacks an understanding of the different

implications of carbon reduction and renewable energy provision. The difference in target setting may impact on the selection of the renewable technology. From a developer's perspective, a clear understanding of the energy solution for a development can be key in determining the overall design and the budget cost.

For a Greater London Authority (GLA)* referable scheme (triggered by development scale) a full energy strategy would need to be submitted as part of the detailed planning application. In other areas (eg rural localities) a commitment to energy efficiency may be sufficient.

When developing the energy strategy prior to outline planning submission assessment of the energy demand will typically be based on similar buildings, or benchmark data, rather than the actual design. SAP modelling (the National Calculation Methodology for dwellings) can often be called for at this point in order to demonstrate compliance. Yet Part L of the Building Regulations will subsequently require SAP modelling as part of demonstrating that the as built dwelling complies and achieving practical completion. Therefore, initial SAP calculations may need to be revised leading to increased costs and duplication of work.

In some areas, developers are consulting with building control at a much earlier stage, eg RIBA Stage B as they want assurance that the proposed energy strategy developed to meet the planners' requirements will also be acceptable to building control. If a project is not granted planning permission, and the design is then changed significantly, this can also impact on the building control team as well, as they will need to review and advise on the revised proposals due to their early involvement in the project.

Some local authority planners are now starting to request post occupancy monitoring to determine the proportion of the energy supply to which the renewable energy technologies contribute. There are likely to be a number of difficulties associated with such a request.

There may be a conflict between approaches considered by the design team to deliver the most energy efficient solution (Part L) and those acceptable to others on health, visual amenity and other grounds. An example is divergent views on the acceptability of water cooled condenser systems (cooling towers). These are usually more energy efficient than air cooled condenser systems. However, it has been reported that environmental health officers may oppose water cooled technology due to concern over Legionella, and will prefer systems that store water at high temperatures – this is felt to be less of a problem these days due to improved maintenance regimes, planners may actually prefer water cooled condensers because they are smaller (better visual amenity) than air-cooled condensers.

Daylight design is a challenging area for optimisation. Approved Document L does not address daylighting; designers must refer to CIBSE Guides and the British Council for Offices Specification. Solar controlled glass may be required in the perimeter areas of commercial buildings to limit emissions from cooling systems as required under Part L

* GLA = Greater London Authority, the regional planning body
(<http://www.london.gov.uk/thelondonplan/thelondonplan.jsp>)

dependent on the percentage of glazing called for by the architect's design. The use of solar control glazing must also be considered with regards to British Standards on daylighting factors and any impact on electrical energy use for lighting.

A planning requirement to meet 'Secured by Design' criteria will require consultation with the architectural liaison officer. They may call for a series of criteria to be met as part of the pre-planning application stage. Examples impacting on Building Regulations compliance could include the need for windows on ground and lower floors to be non-openable.

Homeowners who wish to have a loft conversion may choose to install a combination (combi) boiler, to avoid the need for hot and cold water tanks. However, if the homeowner wanted to install solar water heating at some future date, the loft conversion may preclude this because a hot water tank would be needed and the pipework connection would need to run through the loft space.

For new dwellings, building control needs to be provided with the Part L compliance report to check against the design, and they need to see evidence that the On Construction Energy Performance Certificate exists. It has been suggested that sometimes developers submit the energy performance certificate, which the building control does not need, and do not submit the Part L compliance report which they do need, suggesting there may be confusion regarding what the developer needs to provide to building control.

Liaison between development control and building control

Although an application submitted to building control can be assessed simultaneously with the planning application submitted to development control, it is common for the development control application to be submitted in advance so that the Building Regulations issues are addressed once consent has been granted. With this approach only one application needs to be made to building control, even if a scheme has to be redesigned several times. However it takes time to obtain building control approval before work can start on site. This could encourage the contractor (if it is their responsibility) to pursue a faster Building Notice route (rather than Full Plans) or in the worst case to by-pass the Building Regulations approval process altogether. Some local authorities will ask for the Building Regulations application to be worked up alongside the planning application but many owners and agents are not happy with this as it involves upfront costs before they have certainty of planning permission being granted.

We have been informed that despite development control and building control operating from the same department, the two bodies and their assessing officers may hardly interact or communicate. We are also given to understand that development control officers may have little knowledge of Building Regulations and the building control process, and conversely that building control officers may have little knowledge of planning policies and the development control process. This illustrates how the two functions run in parallel but operate independently, potentially resulting in an inefficient and ineffectual overall process for all parties involved.

Better liaison or shared knowledge between development control and building control could assist in overcoming an issue which sometimes arises whereby an application meets the policy requirements so planning permission is given, only for the applicant to discover later that the scheme does not comply with the Building Regulations.

A new application would need to be made to development control if any changes to comply with the Building Regulations impacted on planning issues. If development control officers had a better knowledge of Building Regulations at an overview level they would be able to identify early in the application process any risk of breaching the Building Regulations. Alternatively if both the development control and the building control case officers were present at a pre-application meeting any issues relating to policy and to the Building Regulations could be discussed and potential conflicts could be identified from the outset.

Some local authorities adopt a proactive approach to providing information on planning permission and Building Regulation requirements at the same time; this is a good model.

Differences of opinion can occur as to the acceptability of design aspects, the provision of 'means of escape' being one. In this instance Building Regulations tend to be dominant over planning requirements.

Development control, building control, and if appropriate, conservation officers may refer to relevant documents but would most often leave it to the applicant to get hold of the information.

Development control officers do not inspect developments after consent has been granted, either during or after construction. Although building control officers carry out site inspections it is not part of their function to inform development control, or other relevant stakeholders such as the Highways department, when a new application should be submitted due to non-compliance with any other regulations. This means that the original design accepted by development control may change without being reassessed by the development control case officer. This has always been the case. It is responsibility of client/builder/developer to build to the planning permission. If there are major conditions or critical building location/heights then perhaps these should be checked by development control early during construction prior to non-compliance becoming an issue.

Sustainability

There is potential for confusion over environmental assessment methods for different building types. The Code for Sustainable Homes (for which DCLG is responsible) contains a mandatory requirement to report the Code rating for new homes. BREEAM, which is the 'nearest equivalent' tool for non-domestic buildings referenced by planners, is a voluntary scheme operated by a commercial enterprise and exists in a range of forms. In some areas planners are also encouraging the use of BREEAM for Sustainable Communities. Developers may prefer planners to make their own decisions regarding the acceptability of a scheme, rather than relying on a tool that requires the developer to pay for an assessment. An industry member has suggested that a BREEAM or Code for Sustainable Commercial Buildings under DCLG control is required to regain ownership and credibility.

There is no mandatory level of the Code that has to be achieved for private dwellings, unless imposed by the planners. In areas where minimum performance standards relating to elements of the Code are required, a developer may decide the additional steps to achieve a particular rating are worthwhile, but the marketing benefits of this will depend very much on the client base. Some developers would be keen to have the same Code requirements in all areas, in the same way that Building Regulations standards apply nationally.

Local planning authorities may choose mechanisms such as BREEAM to assist in delivering their environmental aspirations. Some have a better understanding than others and are able to apply these tools in a sophisticated way, targeting a minimum performance in particular areas such as materials and energy/CO₂, rather than targeting a minimum overall rating. The minimum BREEAM rating required can be difficult or even impossible to achieve due to site constraints, particularly with the latest (2008) version of BREEAM schemes. The requirement for an Excellent rating using BREEAM for Offices 2008 would, in many cases, preclude an air conditioned building, due to the mandatory minimum level of carbon dioxide credits needed (maximum energy performance certificate rating of 40). Clients setting minimum BREEAM performance levels also need to be aware of the implications. Some do not realise that in asking for particular features, as well as setting a target minimum BREEAM rating, there can be a contradiction in what they are requesting.

If a pre-assessment is needed as part of a planning application, some local planning authorities specify that it needs to be carried out by a licensed BREEAM assessor, but not all are so precise. If an in-house, non-licensed person carries this out they will be likely to over-predict the design stage rating if they are not familiar with the finer points of detail of particular credits. BREEAM 2008 has introduced a mandatory Post Construction Review in order to achieve final certification. The local planning authority may require confirmation of the final rating before the building can be occupied. If this is the case, the time taken for the assessment and quality assurance processes needs to be borne in mind by the developer.

Within BREEAM and the Code, credits are only achieved for carrying out actions that exceed regulatory requirements. It may be perceived that the client or design team is being asked to provide fundamentally the same information, but in two different formats – one for Building Regulations compliance and the other to obtain the credit. In practice, the BREEAM or Code requirements should be more onerous or broader in scope. There is a risk that ensuring compliance with the large number of sustainability and other requirements called for by these schemes can threaten the overall design. For example, dwellings with no easy rear access (terraced houses) can become dominated by bin stores, cycle stores etc, and the sense of design and overall attractiveness may be compromised.

For public buildings there is a requirement to obtain and display a valid Display Energy Certificate under the Energy Performance of Buildings Regulations. This is intended to inform the public and other visitors of the energy performance of the building. However a newly opened public building could have an energy performance certificate rating of A (based on its design), a BREEAM rating of Excellent (based on its design) and a display

energy certificate showing a G rating (poorest possible) for the first year until sufficient operational energy data is available to prepare a representative display energy certificate. This would clearly be confusing to the public. It is understood DCLG are addressing this issue.

Conservation areas

The Planning (Listed Buildings and Conservation Areas) Act 1990 as amended establishes the regime for regulation of listed buildings and sets out the general duties of local planning authorities with regards to Conservation Areas. Local planning authorities may restrict permitted development rights[†] locally (absolutely or subject to conditions) by giving directions under Article 4 of the General Permitted Development Order. Article 4 directions enable conservation issues to be a material consideration in influencing the planning decision. When an area is designated as a Conservation Area the local authority has extra controls over demolition, minor developments, and the protection of trees. In most cases a homeowner will not need to apply for planning permission to knock down their house or any of its outbuildings unless the council has made an Article 4 direction. However, it does not automatically follow that the applicant will get planning permission to build any replacement structure or to change the use of the site. Demolition normally requires Conservation Area consent. For the construction of an extension, permission may be necessary before making changes which would normally be permitted elsewhere, to ensure that any alterations do not detract from the area's appearance. Anyone proposing to cut down, top or lop a tree in a conservation area, whether or not it is covered by a tree preservation order, has to give notice to the local authority.

There are additional constraints imposed by working within a conservation area. Problems can arise if a planning application is submitted (and even more so a listed building application) before the Building Regulations application is formulated. Many approvals become technically invalid as a result of the changes made to satisfy Building Regulations, but the applicant and their agent can often believe that, because they were required to make changes by Building Regulations, these changes will also be acceptable from a planning and historic building point of view. Development control officers consider there are a lot of benefits from "pre-application" consultation, and building control officers can be brought in at this stage too, which would assist. The conservation officer should also be consulted in the development of plans and the design to ensure that it is compliant with the local requirements to reduce the risk of the application being rejected.

Works carried out in a Conservation Area can create issues in terms of compliance with the Building Regulations. For example, whilst replacement of existing single glazed windows with double glazed units will assist in meeting the objective of Part L; this may not be acceptable to the conservation officer because of the impact on the visual appearance of the building and a perceived loss of character. In this case the building control officer would need to interpret the regulations in such a way that what is deemed to be reasonable may be a lower performance standard than that set out in the appropriate Approved Document. The building control officer could also ask for additional steps to be taken in terms of

[†] Permitted development rights apply to minor forms of development granted a planning permission by virtue of the Town and Country Planning (General Permitted Development) Order 1995 (the GPDO) as amended

insulation/energy efficiency elsewhere in the building to offset the lower specification of the windows.

It has been stated that licensed installers who are able to self-certify with respect to Building Regulations compliance eg FENSA for glazing installations, have no requirement to consult with conservation officers. Indeed the installers may not know the property is in a Conservation Area. The conservation officers only tend to become aware of someone's intentions if the local authority building control bodies are informed. Responsibility for ensuring compliance with planning requirements sits with the homeowner/client and not the installer.

Fire separation and sound separation have standard solutions but often these need adapting for historic buildings. This is also a particular issue for flats above shops.

The Sustainable and Secure Building Act requires the historic nature of a building to be taken into account when determining what is reasonable in the context of Building Regulations compliance.

Demolition

Demolition is dealt with under the Building Act 1984. Generally, it requires six weeks prior notice to be given to the local authority before demolition begins. Most local authorities decide to place the administration of demolition with the building control department but not all. If the local authority has been served notice as described above it must serve a counter notice and notify adjacent owners of the works. The local authority may specify conditions that need to be met such as precautions to protect adjoining properties and the public.

Demolition work must comply with the Construction (Design and Management) Regulations 2007 and a health and safety plan will need to be produced by the principal contractor. Building Regulations Part C relating to site preparation and resistance to contaminants and moisture will need to be met once the preparation work starts on the site.

The planners may wish the demolition and construction to take place within a short timescale of each other, to avoid a vacant site existing for a long time. The developer may not wish the demolition phase to be seen as the start of implementing the planning permission, because the Section 106 payments incur inflation from when the planning permission starts to be discharged.

4.3.2 APPROACHES TO EXTERNAL BODIES

Often the issue for the design team is not the need to provide the same information to more than one body (duplication) but the timing and nature of the responses from the different bodies, causing delays to the project's momentum or requiring additional work. Delays can result in the need to seek a revision to planning permission (for example a delayed response from a utility company regarding any requirement to provide a new sub-station). There is also a risk that despite a developer confirming with the utility provider that there is sufficient electrical and gas capacity for the development, delays (in obtaining planning permission or for other reasons) may result in the "spare" capacity being taken by other

developments. A sub-station may then be needed, requiring a variation to the planning permission and with associated space requirements and costs.

Potentially different views of external bodies may need to be addressed, eg the extent of a flood risk area as defined by the local authority and the Environment Agency. Another example of a potential difference in views is the abstraction of ground water to serve water-cooled condensers or ground sourced heat pumps for increased energy efficiency (Part L). The acceptability of extraction (or discharge) depends on the scheme's location. There can be instances where the Environment Agency may be willing to grant a license but the water authority is not. Whilst permission is sought (the license process takes a minimum of three months) the design may need to progress with another solution in the event that a borehole is not allowed.

The Environment Agency is keen to ensure a balance of heat extracted and heat provided, and typically only grants an abstraction licence or a discharge licence for five years (for water cooled condensers or ground source heat pumps), although the building may have a 60 year life. This should in practice create few issues other than the need to reapply as the rights of existing license holders would always be safeguarded. However there could be unforeseen changes in aquifer temperature stability, an issue being considered by the Environment Agency as part of their climate change impact studies.

4.3.3 WIDER NATIONAL, REGIONAL, LOCAL PLANNING ISSUES

There is an increasing requirement for a non-domestic project to be set up as mixed-use development in order to get planning permission. For example a private housing development may be required to include affordable housing as part of the Section 106 agreement. In an inner city location the Council may not approve an "offices-only" new building, wanting retail/restaurants at the ground floor to promote an active frontage.

A decision on whether to request a pre-application meeting or engage in some form of pre-application communication with the development control case officer is left to the applicant. A fee, based on the size of development, is charged unless the meeting is requested by a homeowner applying for their own property and the meeting takes place with no agents present (architect, contractor, etc.). Development control officers tend to favour pre-application communication as it can ensure a smoother process and reduce the risk of refusal. However, at the scale of a domestic extension, some architects do not consider pre-application meetings beneficial since the initial advice quite often conflicts with the eventual decision. The initial view will be based on personal opinion and the final review will be based on policy or another officer's opinion. It has been reported that the pre-application meeting can, on occasions, lead to added cost and time if initial advice is poor and design changes are made as a result which later require rectification.

Planning applications may be reviewed by local, regional or national bodies depending on their nature. The requirements to be met may vary depending on who assesses the scheme, for example, the Greater London Authority may be more demanding than a London borough in respect of a referable scheme. Until recently, the Infrastructure Planning

Commission would be requested to review particular projects of national significance, but this Commission has now been abolished.

Local planning authorities are at different stages of reviewing their policies, therefore it can be difficult to identify the current policy and a draft policy may be “material” even though it is not yet confirmed. Variations between different local planning authorities can cause issues for developers such as the minimum size of new residential development which triggers a requirement for affordable housing. In one city we reviewed a scheme below 10 houses would trigger this requirement; in other areas, such as some London boroughs, the minimum development size triggering an affordable housing requirement is 10.

Where a developer is building both affordable housing and homes for private sale, the affordable housing will have to meet a number of requirements in respect of Housing Quality Indicators, Code for Sustainable Homes (Code), Lifetime Homes, etc. There may also be a requirement to follow Secured by Design principles. The planners may require some of these standards to be adopted for all dwellings. However, there is the possibility that the developer builds to different standards for the two types of tenure, and that the standards for the affordable housing are higher.

The local planning authority is likely to set a number of pre-commencement conditions. However, the developer may wish to start on site before the building is fully designed, and before all of the conditions can be discharged (especially in the case of design and build procurement). Therefore, the developer will present a case that pre-commencement conditions should be regarded as pre-construction conditions, and only be discharged prior to the commencement of the relevant construction element. A developer may be able to persuade the local authority in favour of this course of action, if not there will be a delay getting on site.

Obtaining planning permission

We have identified a number of issues related to obtaining planning permission:

- For minor works, planning application decisions are normally made within the eight weeks target, but there is a feeling this can lead, on occasions, to a simple ‘No’ being given so that a decision has been made in the required timescale (this can be the case for new build properties, and is on occasion a reflection of a lack of resources). It has been suggested that it would help if the planning officer informed the applicant of any issues during that eight-week period, rather than just refusing the application. This would give the applicant the opportunity to withdraw the application as early as possible to resolve the issues, rather than having to wait eight weeks to be told they need to do it all over again.
- In contrast to compliance checking against Building Regulations, planning decisions require public consultation and can be affected by politics. Even if a scheme has policy officer support, and is in accordance with planning policy, it may still be rejected by the Planning Committee. This increases the financial risk for the developer.

- Where design changes are necessary, local planning authorities do not have consistent definitions of what constitutes a significant material change in planning terms. A mechanism to vary a planning consent in the case of minor amendments should be in place together with clear guidance for applicants and local planning authorities regarding what does (and does not) constitute a minor amendment.

4.4 Building regulations and other regulations

4.4.1 INTERACTION BETWEEN BUILDING REGULATIONS AND OTHER REGULATIONS

As part of this research project we have reviewed the interactions between Building Regulations and other regulations. This has identified issues in relation to air quality, fire safety, gas, health and safety, Energy Performance Certificates, local acts, water and drainage, rights to light and party walls.

Air quality

Local air quality issues are often not considered during the development of the brief or the outline design. However, air quality will be a material consideration in assessing a planning application as the local planning authority is required to meet the regulatory targets. Where there is concern over the potential emissions from the development and associated transport, the local planning authority may request an air quality assessment to demonstrate compliance with the local air quality objectives.

The identified actions, targets and objectives within an Air Quality Management Area may prevent certain developments from proceeding, or place particular requirements on them, such as mitigating emissions from biomass boilers or gas-fired Combined Heat and Power units. Significant design changes may subsequently be required, affecting Building Regulations Part L compliance and the energy strategy. There is an inconsistent approach across local planning authorities to the acceptability of biomass boilers, particularly in respect of their impact on air quality, which can complicate the design process when determining a suitable energy strategy.

From a Part F perspective, compliance is demonstrated through achieving the required ventilation rate, ie ensuring sufficient air enters a building, rather than through achieving a certain standard of air quality.

Fire safety

The Regulatory Reform (Fire Safety) Order 2005 (the Fire Safety Order) applies to completed buildings; it is the replacement measure for monitoring fire precautions in occupied buildings within the Fire Precautions Act. The Fire Safety Order applies to non-domestic buildings and the communal parts of blocks of flats, but not to individual domestic properties or flats. Revisions to Building Regulations Part B (Fire safety) and the guidance in Approved Document B came into force on 6 April 2007 to take into account the Fire Safety Order. These revisions affected how fire safety should be designed into the erection, extension or material alteration of all buildings. One of the changes was a new

requirement to ensure occupiers are made aware of their building's fire protection measures so as to assist with the preparation of fire risk assessments under the new Fire Safety Order regime. Paying due regard to Regulation 16B in Approved Document B during the design process (consideration of management of risk once the building is occupied), and the acceptance by building control that this regulation has been complied with should ensure that there are no problems implementing the Fire Safety Order when the building is occupied.

DCLG has published *Building Regulations and Fire Safety: Procedural Guidance* (July 2007)[‡]. This explains the steps involved in approving the fire safety aspects of building work, and the interaction between Building Regulations and other statutory fire safety requirements in England and Wales.

Our work has identified a number of issues in relation to fire safety. For new buildings, building control and other bodies will have a different view regarding the scope of fire safety:

- Building control are focused on life safety (eg early warning, means of escape, reducing fire spread, appropriate access and facilities for fire and rescue services)
- The fire service is focused on life safety and in particular safe access into the building and facilities for their fire fighting crews
- Insurers and businesses will also be interested in reducing damage to the building and to neighbouring properties.

Unlike the Building Regulations which apply equally on a national basis, the fire service's views can vary in different parts of the country. With regard to the detail of the fire strategy, insurance companies may have different requirements to building control because they are looking for a higher level of fire rating.

Early consultation between the building control body and the local fire service prior to the approval process would always be recommended for any particularly challenging design details to avoid subsequent conflicts of opinion arising. Consultation during the approval process is a requirement.

As part of the detailed design (typically at Stage E), when the fire strategy is being agreed with the building control body there is a statutory consultation period of 14 days during which the building control body consults with the fire service about appropriate requirements. On occasions the fire service has been unhappy with what the building control body has approved; but they have accepted it, noting their concerns in their consultation response. As building control is the statutory body for enforcement of Part B the fire service are unable not to accept what building control have accepted as complying. In some regions, the fire service may be focusing on the implementation of the Fire Safety Order and may have insufficient resources to permit them to make comments at this stage.

[‡]http://www.planningportal.gov.uk/uploads/br/BR_PDFs_firesafety.pdf

It could be the case that the fire service requests measures over and above those needed for Building Regulation compliance. Thus feedback to the design team can consist of elements which the building control body requires and additional elements that the fire service would like. The building control body can suggest the additional elements, but it will be for the developer to determine whether or not they wish to include them in the design. However, the building owner would need to demonstrate to the fire service that they have taken account of the service's concerns in their fire risk assessment under the Fire Safety Order. If the fire service is still not satisfied, at this point, then they have powers of enforcement open to them to seek additional measures. Once the building is occupied, the building owner would need to comply with any additional elements that are then identified by the fire service as being necessary to comply with the Fire Safety Order, as following occupation the fire service is the regulatory body.

During the consultation process the fire service will only consult through building control and will not directly talk with the client or architect. This can be frustrating because of the time taken for comments to be fed back through the building control office, if there is any feedback at all.

The adopted fire strategy can be a trade-off between initial capital costs and the rebuilding costs in the event of a fire, especially if the body bearing the rebuilding costs is not the same as the organisation incurring the capital cost. There will also be a consideration of insurance costs.

National agreements exist with certain large chains, such as major retailers. They 'employ' a local fire authority and building control body to 'approve' standard designs which are then submitted in other areas as part of the planning and Building Regulations approval process. This can cause difficulties with a local fire service requested to approve designs for buildings in their region when their opinions have not been sought. There may be local circumstances that need to be taken into account, such as different sizes of fire tenders, when finalising the fire strategy.

If a material alteration is carried out in an existing building (eg to a staircase affecting means of escape) then this requires building control approval and the fire service should to ensure clients are aware of this. Notification can also be required if there is a change of use of a space.

Gas

Gas safety is covered by its own regulations governed by the Health and Safety Executive. However relevant installers will need to comply with both the Gas Regulations and the Building Regulations, eg Part J and Part L as these relate to boiler installation. Prior to undertaking work on gas systems it is mandatory to be named on the Gas Safety Register.

All gas installations are self-certified by the installer; a Gas Safe Registered Person will self-certify their work and issue a Gas Safety Certificate as evidence of compliance with the Gas Safety (Installation and Use) Regulations 1998, via the Gas Safe Register scheme. The implication of this is that it is not possible for a designer to confirm compliance until after the

services have been installed because installers do not offer a pre-construction sign off service.

Health and Safety/Construction Design and Management

A separate Health and Safety Executive project has considered the Building Regulations and Construction Design and Management Regulations 2007; hence this has not been reviewed in detail. One point noted however is that Construction Design and Management regulations relate to a process rather than a physical structure, and so there is no direct relationship with the Building Regulations. Site surveys can be subject to Construction Design and Management, so the regulation can apply from an early stage of the project.

Under the Construction Design and Management Regulations, the client is expected to provide the design team with full information on which to base the design. Due to cost implications, there can be a lack of willingness to obtain sufficiently detailed information (eg to commission survey work) before outline planning permission is obtained, although the information will be obtained prior to the detailed planning application. If the construction phase will last more than 30 days, Part 3 of the regulations will apply, requiring the appointment of a Construction Design and Management co-ordinator. The Construction Design and Management co-ordinator will notify the Health and Safety Executive of the project; however they have no formal interface with Building Control. Designers may fail to get the appropriate information from the client to inform their design development if a Construction Design and Management Coordinator is not in place, and a late appointment may be a breach of the Client's statutory duties. A lack of timely advice, eg a ground investigation, could subsequently result in building layout changes being required. This may then affect planning permission if redesign is required when the survey results are received.

Where appointed, during their site visits, building control bodies would be alert to any dangerous practices. A number of building control bodies, including the London District Surveyors Association, have protocols agreed with the local Health and Safety Executive such that if they observe regulatory non compliances they will alert the appropriate body. The Building Control Alliance has a protocol with the Health and Safety Executive suggesting ways of working closer together in the future. This protocol applies to both public and private sector building control bodies. Enforcement would always be via the nominated agency. A view was expressed that giving the building control body powers to put a stop to dangerous practices would be a good idea (they have a professional duty of care), but then that the Health and Safety Executive would enforce the regulations.

The project Health and Safety file is required for certification of Practical Completion. This contains the evidence required by the design team leader and is not a requirement of the Building Regulations. The Construction Design and Management coordinator has no interface with the local authority and the building control body has no interest in viewing the Health and Safety file. It has been reported that the Practical Completion certificate may be carefully worded to caveat any statements made about what has been checked.

The Energy Performance of Buildings Regulations

The Energy Performance of Buildings Regulations 2007 set out the requirement for an energy performance certificate to be produced whenever a building is constructed, sold, or let. In the case of a dwelling if it is being extended and the owner previously had an energy performance certificate and wanted to rent out the dwelling, they could use the existing one provided it was still within its 10-year validity period. Some argue that the homeowner should be required to produce a new energy performance certificate to reflect the works undertaken. Even if an energy performance certificate is not required on completion of the works, it is advisable for the homeowner to keep records of improvements and installed insulation standards to inform the production of any future energy performance certificate. Otherwise default standards may be used, resulting in an energy performance certificate that underplays the dwelling's energy performance.

At the time of the research, if a house builder intended to sell dwellings off-plan, there was a need for a Predicted Energy Assessment for each dwelling as part of the Home Information Pack[§]. A Predicted Energy Assessment was effectively an energy performance certificate but an energy performance certificate cannot be issued for a building which does not yet exist. An issue was raised relating to Predicted Energy Assessment production. However, there is no longer a requirement for a Predicted Energy Assessment for off-plan sales as the Home Information Pack (HIP) regulations have been abolished.

Local Acts

Fire is the main issue covered by Local Acts. These were introduced to allow for the imposition of standards beyond the Building Regulations (ie in this case Part B with its focus on life safety) to also account for economic circumstances. An example is the London Buildings Acts (Amendment) Act 1939. This only applies to Inner London and is incorporated within the Building (Inner London) Regulations 1985. Applications under this Act may need to be submitted for certain types of work. These applications are usually required in addition to the normal Building Regulations application, and approval can only be given by the local authority building control body, not by an approved inspector. One local authority confirmed that their fees for the London Building Act approval would depend on whether they were also the building control body for the Building Regulations (and hence are familiar with development) or whether an approved inspector has been engaged. However, it has been reported that this can result in some local authority boroughs charging disproportionately high fees for the London Building Act approval.

A proposed fire engineered solution may be deemed by building control to be compliant with Building Regulations Part B and Section 20 of London Act as a result of a negotiated agreement. However it has been reported to us that instances have arisen where a lack of strict adherence to Section 20 (despite obtaining consent) may be flagged at a later date as an issue by those undertaking due diligence assessments on behalf of potential purchasers.

A lot of work has been done in the past towards the removal of Local Acts. It is felt that this work will eventually remove all Local Acts and the duplication that they cause. However, a

[§] Home Information Packs were abolished in 2010

comment was received that there still remain several out-of-date Local Enactments which local authority building control bodies have (or choose) to apply, and that these are perceived to be applied especially when an approved inspector is appointed causing unnecessary delays and costs for the developer.

Water/drainage

The provision of water supplies is governed by The Water Supply (Water Fittings) Regulations 1999. When designing hot and cold water distribution systems there are different methods of looking at unit demand, diversity and pipe sizing as published by the Institute of Plumbing, Chartered Institution of Building Services Engineers (CIBSE) and British Standards.

Approval for different parts of the regulations (ie drainage) requires consultation with different organisations, such as the Environment Agency and water authorities, who may have different approaches or opinions, for example regarding connecting drainage to existing sewers. The building control body will usually state when they have informed consultees/stakeholders, eg the Sewerage authority. If there is a conflict the Sewerage authority's decision takes precedence.

Rights to light/party walls

Rights to Light and Party Wall considerations need to be taken into account and agreed with neighbours. If Rights to Light apply to the proposed works, this should be considered as early as possible in the design proposal, prior to both the Planning and the Building Regulations application, although there is no interaction between Rights to Light and these processes.

Homeowners are not often aware of the significance of the Party Wall Act (viewed as the most important regulatory consideration after building control/planning interface) and if they are managing the project themselves they are unlikely to follow the process required due to a lack of knowledge or understanding. Smaller contractors may also not have a full understanding of requirements. Due to a lack of knowledge, a homeowner may not have appointed a Party Wall Surveyor and consequently not give the required notice to the relevant neighbours. Resolving party wall issues may result in a delay to the commencement of works.

Both Rights to Light and Party Wall issues are matters of property law, not planning law, so neither the local planning authority nor the building control body will have any role or interest in any private dispute arising. It would be for the owner or occupier affected to see if a legal remedy is available. If an injunction can be obtained, it might be possible to prevent someone proceeding with works, even if the works had both planning permission and approval under the Building Regulations. Otherwise, courts may direct that compensation is to be paid.

4.5 Building regulations and sector specific guidance

4.5.1 INTERACTIONS BETWEEN BUILDING REGULATIONS AND SECTOR SPECIFIC GUIDANCE

Specific interactions between Building Regulations and sector specific guidance have been identified for schools. Other issues relate to funding and planning requirements and their impacts on design have also been identified.

A trend which has been observed is that the scope of regulation is seeking to extend into the actual performance, and within funding programmes such as Building Schools for the Future administered by Partnerships for Schools, there is an emphasis on achieving in-use performance targets to release additional funding resource. However it is not clear who will monitor and enforce these standards. As the emphasis shifts to Academies and Free Schools, it is not yet clear whether “in-use” targets will have the same emphasis.

Schools

Additional standards exist for schools design in the form of Building Bulletins. Furthermore, the Building Schools for the Future programme has introduced its own design criteria. Although the Education (School Premises) Regulations 1999 exist and set design standards, they are not widely referred to, and typically someone would only refer to them in the context of a health and safety issue in an existing school.

A number of issues were highlighted via interviews with those involved in constructing Building Schools for the Future schools. Regulations, by their general nature, allow for flexibility of interpretation, and this is seen by design teams as positive. The creation of the Building Bulletins removes some of the design flexibility, for example what is the Building Bulletin equivalent of the term ‘reasonable’ used within the Building Regulations? The technical content of the Building Bulletins is viewed by some as inconsistent; most Building Bulletins convey ideas which are common sense whereas some are much more challenging to achieve. There is also confusion about the emphasis placed on compliance with the Building Bulletins as guidance in relation to compliance with the Building Regulations. Some are of the opinion that the Building Schools for the Future process is unduly prescriptive in certain areas of design through the funding mechanism it employs or in its required adherence to Building Bulletins. However Partnerships for Schools consider themselves to be pragmatic in terms of compliance with Building Bulletins and believe that their process allows sufficient flexibility for the experienced practitioner.

Maintaining awareness of the volume of Building Bulletins and other guidance can be a challenge for both the local authority and the bidding consortia. If project teams are not sufficiently familiar with the Building Bulletins (albeit they should be) and do not take them into account at an early stage in the design, difficulties may occur later in meeting the guidance.

Some examples are given below:

- A multi-use space such as a sports hall is defined as a teaching space and must therefore meet these requirements too.
- There are relatively straightforward daylighting requirements in Building Bulletin 87 and Building Bulletin 90. However, adjusting designs to achieve these requirements as the design progresses, rather than accounting for them initially, may result in the need to adjust floor plans created at Royal Institute of British Architects (RIBA) Stage B.

Prior to a local authority being awarded Building Schools for the Future funding, there is a period of approximately 18 months. This provides the opportunity to develop a clear brief which will smooth the subsequent design process, eg determining whether biomass boilers will be acceptable in principle or whether there are air quality issues. Partnerships for Schools are of the opinion that many conflicts between Planning and Building Regulations could be captured within this period and have published their "Readiness to Deliver" documents to highlight many of the issues which should be considered.

Approved Document F addresses ventilation for the purposes of achieving adequate internal air quality, whereas Building Bulletin 101 deals in particular with ventilation in schools to maintain internal air quality and to avoid overheating. Approved Document F directs readers towards Building Bulletin 101 for schools projects so there should be no conflict in terms of compliance. Section 3 (Ventilation and Indoor Air Quality) of Building Bulletin 87 (Guide for Environmental Design in Schools) is being revised and will in future be developed further into a separate bulletin to cover issues in Approved Document F in support of the Building Regulations.

Some designers elect to comply with the avoidance of overheating criteria as laid down in CIBSE Guide A rather than those within Building Bulletin 101 as directed in the Approved Document. Complying with Building Bulletin 101 is easier as it involves meeting some basic design parameters as set down in a spreadsheet based tool. An opinion was expressed that the design standard within Building Bulletin 101 (Ventilation of School Buildings) of 28 deg C for a maximum number of specified hours per year is likely to exceed recognised comfort conditions and result in an under-performing building.

When designing a naturally ventilated solution, the amount of free area required to facilitate airflow can conflict with safety and security requirements. To comply with the Health and Safety at Work Act if a school is going to operate a night cooling strategy designers must ensure either that window opening is automated or there is a safe means of manual intervention to allow caretaking staff to operate the regime.

Building Regulations Part E addresses acoustic issues, as does Building Bulletin 93 (Acoustic Design of Schools). Building Bulletin 93 has been developed to accommodate the needs of children who are hard of hearing. Therefore, it sets a higher standard than that required for compliance with Approved Document E (Resistance to the Passage of Sound). The acoustic challenges brought about by Building Bulletin 93 requirements were

addressed in the writing of Building Bulletin 101 to make compliance rather easier with naturally ventilated designs. However, site constraints (noise and/or security) and/or the intended occupation and methods of teaching (affecting the ICT incidental heat gains) may preclude a naturally ventilated solution.

Building Bulletin 100 '*Design for Fire Safety in Schools*' is the document to which schools must comply with regards to fire safety. It intentionally builds on the requirements of Approved Document B, including additional property considerations. Approved Document B is to be referred to only when Building Bulletin 100 does not adequately cover an issue (eg schools over 30m high). Although Building Bulletin 100 mostly repeats and then builds on text from Approved Document B - hence principles are aligned - there are some subtle differences of approach. Building Bulletin 100 has an aim to incorporate protection of property into the design process, whereas Approved Document B focuses purely on life safety.

Daylight is not addressed within an Approved Document apart from its consideration being part of the overall balance to be achieved of minimising carbon emissions and heat gains in Approved Document L. Typically the M and E engineer would refer to Building Bulletin 87, which suggests that a 4% average Daylight Factor is needed in classrooms for good daylighting. Building Bulletin 90 (Lighting Design for Schools) says that a 2% Daylight Factor will require electric lighting at all times. The Building Schools for the Future standard Output Specification requires 2% Daylight Factor which can contribute to classrooms with insufficient daylighting.

Building Schools for the Future requires that the development is assessed under the BREEAM Education scheme. All secondary school projects valued in excess of £2m need to achieve at least a 'Very Good' rating. Like all BREEAM schemes, the ability to achieve a particular rating partly depends on the location of the building. The Building Schools for the Future requirement does not allow for different standards depending on the location, for example a school located close to an airport where mechanical ventilation would be required. Furthermore, as noted earlier, local planning authorities may choose to use mechanisms such as BREEAM to deliver their environmental aspirations. The required standard may therefore be set higher than the Building Schools for the Future requirement, leading to a greater level of sustainable design but a more expensive overall development.

Not all design teams and clients have previous BREEAM experience. They are often not aware of the actions required early in the design stage to achieve certain credits, maximise sustainability and minimise overall compliance costs. As a consequence, for these projects, it may be necessary to implement more expensive measures later in the design stage to achieve a minimum target. For Building Schools for the Future schools, this can have implications after financial close. For schools which need to demonstrate a particular BREEAM performance rating as set by the local planning authority and where completion is often only shortly before occupation, the need for a Post Completion Review is potentially a problem due to the time required to undertake the final quality review prior to issuing the final BREEAM certificate.

Healthcare buildings

Health Building Notes and Healthcare Technical Memoranda apply to buildings in the healthcare sector, but they were not reviewed as part of this project. The Health Building Note series sets out the Department of Health's best practice standards in the planning and design of healthcare facilities and informs project teams about accommodating specific department or service requirements. The Healthcare Technical Memoranda publications set healthcare specific standards for building components, such as windows and sanitaryware, and the design and operation of engineering services, such as medical gas installations and fire safety requirements. The FIRECODE parts contain requirements on Trusts that are mandatory. The Healthcare Technical Memorandas are supported by other technical guidance, such as the Model Engineering Specifications.

Health Technical Memorandum 07-02: ENCODE 2005 (Making energy work in healthcare) is the primary guidance on energy efficiency in healthcare facilities. It provides a one-stop-shop for all issues relating to the procurement and management of energy in the National Health Service and addresses policy issues, governance arrangements, capital and revenue spending decision-making, commissioning and design requirements. ENCODE references the mandatory Energy Targets for new build and refurbishment projects that apply to National Health Service bodies.

It is recognised that BREEAM is not a regulation, but carrying out an assessment and achieving a certain minimum rating may be a funder's requirement. The Department of Health requires a BREEAM assessment for new build healthcare schemes (Excellent) and refurbishment projects (Very Good). However, the BREEAM requirement of an Excellent rating only applies to new build projects with a capital cost in excess of £2m. Some buildings, such as a doctors' surgery, may come below this threshold cost. In relation to local planning authority requirements, a need to demonstrate compliance with sustainability criteria is likely to be stipulated on the basis of floor area, not construction cost, say a threshold of 1,000 sq m. Where a project exceeds the threshold cost, but is not a major development, ie a single hospital ward, the opportunities to achieve a BREEAM Excellent rating may be limited, and there may be a view that the required funding to achieve the standard does not represent value for money.

Offices

The brief for a speculative office building is often driven by the British Council for Offices Specification, although this is not legally binding.

Fit-out case study:

When building speculative offices (and other building types), an issue may arise where there is a different building control body advising the fit-out team to the one engaged for the design and construction phase if they have different interpretations of compliance.

A particular fit-out of a new build multi-tenanted office was reviewed as a case study. For the fit-out phase, each tenant was able to select their own building control route, the result being an equal split between the use of the local authority building control and approved

inspectors. The landlord and tenants needed to be aware of a number of compliance issues, including:

- The maximum acceptable addition to background noise levels as agreed with the local planning authority following the pre-commencement survey
- The circumstances under which their work would be defined as a “consequential improvement” and hence require to be checked by the local authority building control body or approved inspector. An example would be the introduction of a new communications room where a cooling system might be required
- Whether any extension to the fire safety systems would necessitate a functional recheck by the appropriate responsible person
- The need for the main building fire alarm system to be checked on a regular basis. Although tenants would be responsible for their own maintenance, the landlord would also need to confirm that they were making checks as part of the landlord’s duty of care

If the tenants wished to create any cellular offices:

- The need to ensure escape routes and sprinkler locations would still comply with the London Building Act Section 20, Part B (must be checked by local authority building control body), and any requirements imposed by the insurers
- Any potential effect on return air paths within the ceiling void requiring noise attenuation or fire curtains, which would require compliance rechecking.

In any fit out design or subsequent refurbishment, there may be a need to refer back to original documentation to understand the building design strategy and the basis on which approvals were originally given. If different individuals are involved in the works difficulties can arise if this has been lost or is inadequate, eg confirmation of what has been done in the base build and information on the fire safety plans. If the owner/landlord cannot locate these documents, the ability to obtain copies from the original local authority building control body or approved inspector is variable. Archive retrieval systems range in their efficacy.

4.6 Site specific issues

Our study highlighted a number of site specific issues which trigger regulatory regimes with which a development will need to comply.

In England, where an existing site would be cleared prior to development, the developer would have to consult with Natural England. While an appropriate mitigation response can usually be agreed, the protection afforded under such legislation may block the development from proceeding. This potentially causes a conflict with central and local Government requirements for building housing and other developments on brownfield sites.

Preservation of existing trees can lead to overshadowing issues (eg restrict opportunities for renewable solar technologies) and daylight issues. If it is a requirement to survey a site prior to commencement of works because protected or priority species are known or suspected, this can create a delay as there are constraints on the time of year that some of these surveys can take place (depending on the species). This may not be widely understood by developers. By carrying out the required surveys during the process of

developing the planning application, a potential delay once planning permission is granted can be avoided.

Where noise and air quality are of concern, the environmental health officer will be consulted and their concerns reflected in the planning permission and any reserved matters.

Where site constraints become apparent during construction which dictate a change to the engineering design (ie beams or foundations), the amendments will need to be referred to building control to ensure their appropriateness in regard to the Building Regulations. Structural checks within building control can be undertaken by a specialist engineer.

Flood risk

Planning Policy Statement 25^{**} sets out Government policy on development and flood risk^{††}. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Exceptionally, where new development is necessary in such areas, policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall. In the case of permitted development, where the proposals could have a direct, significant and adverse effect on a flood risk area or other negative impact relating to flood risk, the local planning authority could make an Article 4 direction under the General Permitted Development Order (GPDO) to require a planning application. Although Building Regulations Part H compliance (Drainage and Waste Disposal) requires information about the same set of risks, there is no specific guidance on the process. Planning Policy Statement 25 makes no reference to Approved Document H and the resulting design issues. Regulations relating to flood risk will change as a result of the forthcoming Flood and Water Management Bill (draft Bill published in 2009).

A local planning authority may take a different view to the Environment Agency about the acceptable flood risk in an area, and therefore the extent of the development site. This can result in conflicting advice, and the need for redesign. Most flood risk compliance issues are dealt with through the Planning process. However when Building Control is approached once planning permission has been gained the mitigation measures incorporated into the design may be at odds with Building Regulation requirements. For example, measures may include raised access points and floors. In exceptional cases, this can cause difficulties with compliance with Building Regulations Part M Access and the Disability Discrimination Act.

Detailed discussions may have taken place between the Environment Agency, Planning Policy Officers, Development Control and the developer concerning the required mitigation measures. However there is an issue regarding the responsibility for checking that the

^{**} Note Planning Policy Statements do not apply in Wales, instead Technical Advice notes (TANs) apply

^{††} <http://www.communities.gov.uk/publications/planningandbuilding/pps25floodrisk>

completed development is compliant eg raised floors, land raising, upstream flood storage (attenuation schemes requiring excavation of stated volumes) etc. It is unlikely that Building Control will have been part of the earlier discussions with the Environment Agency (this is not precluded but some may view it as unduly increasing upfront costs), thereby leaving them unable to offer practical advice. The Environment Agency would not get involved as they have secured their requirements at the planning application stage. The holistic knowledge required does not sit within a single party and hence there is the possibility that the design and construction may appear to be appropriate but a problem may only be discovered when flooding occurs.

Failure to address flood risk and sustainable drainage issues at an early stage and throughout a developing design can lead to subsequent compliance issues. The Environment Agency only requires a Flood Risk Assessment at an 'appropriate degree at all levels of the planning process' and there is a grey area as to what "appropriate degree" actually means. Developers would welcome clarity and consistency with respect to the requirement to produce a flood risk assessment.

Environmental impact assessment

At an early stage in the project, the client should request a screening opinion from the local planning authority to confirm if an environmental impact assessment is required and, if so, which issues need to be assessed. The Screening Opinion is to be issued to the client within five weeks. If the Screening Opinion is not sought until Stage D, the project risks significant delays. The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 apply to:

- Schedule 1 projects, for which Environmental Impact Assessment is required in every case.
- Schedule 2 projects, for which Environmental Impact Assessment is required only if the particular project in question is judged likely to give rise to significant environmental effects.

DCLG guidance *Environmental Impact Assessment: A guide to procedures* provides lists of Schedule 1 and Schedule 2 projects. Inclusion within Schedule 1 is generally on the basis of project scale.

The environmental impact assessment results in the preparation of an Environmental Statement describing the likely significant effects of the development on the environment and proposed mitigation measures. If the project design is deemed to create any unacceptable impacts under relevant legislation (ie visual, noise, groundwater, air pollution), design changes will be necessary until there are no significant and unacceptable effects on any aspect of the environment. The final Environmental Statement must assess the final Detailed Design. Therefore delays to the overall programme may occur through design changes to ensure the scheme complies with all relevant environmental legislation. A number of iterations may occur as one change may impact another environmental issue. Any changes that affect the design of the building itself will generally be an issue for Building Control.

4.7 Process and procurement issues

4.7.1 PROCESS – LOCAL AUTHORITY BUILDING CONTROL BODY/APPROVED INSPECTOR

Although not the intended focus of this project, a number of issues have been raised regarding the building control process. Some felt they had a different experience depending on whether the local authority building control body or an approved inspector was engaged. There was a sense that, for a commercial developer, the selection of building control route can depend on the role they will play. One developer commented that an approved inspector was regarded as more a part of the development team and more responsive to the project deadlines, whereas the local authority building control body was felt to operate more to their own timescales. Note that local authority building control bodies have statutory timescales and a more rigid process to adhere to whilst approved inspectors can be more flexible. Separately, some design team members however commented that they valued the rigour that local authority building control bodies apply to checking project proposals. Local authority building control bodies will approve the design in a full plans application whereas approved inspectors do not, which can result in a more iterative process.

A developer may prefer to employ an approved inspector because the same individual can work on projects around the country, thereby providing a consistency of advice. Local authorities have responded by introducing the Local Authority Partnership Scheme. This allows one local authority to operate in different locations for the same client in terms of plan checking with the local authority building control body undertaking site visits and all statutory duties.

It was suggested that with respect to the perceived variation in the application of regulations between local authority building control bodies and approved inspectors, some comfort could be afforded if the local authority building control body audited sample projects where approved inspectors had been employed. However, neither approved inspectors nor local authority building control bodies can inspect each other. There is a process for checking the services that an approved inspector provides if a complaint is made to the Construction Industry Council (CIC) (operators of the Approved Inspectors Register), whilst the Local Government Ombudsman deals with complaints concerning the performance of local authority building control bodies. However both processes only look at procedural issues not technical ones. Approved inspectors are required to have a licence which is periodically renewed, but there is no corresponding licence for a local authority to provide a building control service. Any complaints that are upheld can result in censure of the approved inspector or even the removal of their licence.

4.7.2 PROCESS – DESIGN TEAM

The construction cycle

A consideration of schools design has emphasised that at times the whole construction sector (professional, contractors and regulators) needs to adjust to major new building programmes. For example, the last year or so has seen a decline in the new build commercial offices and the housing sector, and a significant increase in investment in

schools and healthcare projects. Initially, not all of the design teams will have been familiar with the associated sector specific requirements.

Local authorities themselves find they have a workload dominated by a new building sector or a major new Government initiative which they have to take on board. For example, there was a wide variation in understanding of the Building Schools for the Future processes and the complexities of major projects within local authorities. To compound matters, some local authorities underwent a change of status to a unitary authority in the middle of the Building Schools for the Future process, affecting both systems and staff. Within the Building Schools for the Future programme, timescales were often extremely tight, and so there was great reliance on the local authority being able to address all queries very quickly requiring staff to be very knowledgeable in this new area. Furthermore, local authorities did not always appreciate the importance of undertaking site investigations and surveys at particular times, and how this would drive future programmes.

Procurement processes are also an area where both industry and local authorities have had to get up to speed with new routes. These routes can also increase the burden for local authorities as they will need to provide the same advice to a number of competing teams, typically three, further drawing on their resources. In a similar way, where existing schools were involved with the Building Schools for the Future process, they could find themselves having discussions with each of the bidding teams.

Domestic extension

A homeowner may engage an architect or surveyor to lead the project, they may appoint a builder/small contractor as the lead, or they may decide to self-manage a project. For smaller domestic projects, there is a high likelihood that an architect would not be engaged. Because of the extent of the regulations which potentially may need to be complied with (Planning, Building Regulations, Party Wall Act, Rights to Light, Control of Asbestos Regulations, Waste, and Health and Safety Regulations etc), it is always advisable to engage qualified construction professionals to guide the client through the process and requirements, although this has associated costs. Some smaller contractors may also not be aware of all of the requirements and there is the risk that the homeowner assumes all of the regulatory issues are being addressed by the contractor when this is not necessarily the case. For a self-managed project, there is an even greater risk that the homeowner is not aware of all of the regulations and procedures with which they are required to comply.

The complexity of the Building Regulations is such that a client will often commission a third party (ie a builder, architect, architectural technologist or a chartered surveyor) to prepare the required application and provide the necessary information to demonstrate compliance with regulations. If Building Control has been involved throughout the construction process and the builder/architect/surveyor has followed their advice, there should be no reason for the development not to achieve sign-off and a Completion or Final Certificate. If the contractor undertakes works without approval, or fails to comply with any particular issue, they may be fined for contravening the regulations; however the legal obligation for rectification rests with the owner, despite them not necessarily being aware of the requirements.

4.7.3 PROCUREMENT/CONTRACTUAL ROUTE

A compliance issue may arise between an architect and an installer. The first specifies performance criteria, whilst the installer identifies what he will install in order to meet the specification. The responsibility for determining whether the interpretation of the performance specification is correct can be a grey area. It may be very difficult for Building Control to check on site what has actually been installed and whether this meets the requirements. If the building does not comply with the approved design, the legal position regarding who is responsible for checking the construction against the design is complex as Building Control will only be responsible for checking compliance with Building Regulations.

Competent person schemes

In the case of some minor works, typically involving fixed building services such as boiler installation or replacement, window replacement or electrical work, a client (eg homeowner) will not need to seek approval from Building Control if their contractor is a member of a Competent person schemes and has therefore been assessed as competent to undertake and self certify that type of work. This means that the contractor will inform Building Control and the client in parallel of their work and that it has been done in accordance with the Building Regulations.

For those trades which provide self-certification, on occasions the required documents are not always provided to the client at the completion of works, this may be more of an issue for small scale projects such as a domestic extension. The tradesmen may need to be pursued many times before they supply the documents that must be submitted to the building control body in order for a Completion Certificate to be issued. More typically however, experience is that the certificate is issued to the building control body within one week and is passed on as soon as possible from the builder to the client so that they can get paid promptly. Builders should be fully aware that it is their responsibility to pass on the Completion Certificate and that there will be no payment until this is done. The client needs to be more aware of what they can do to make their life easier within this process, eg by introducing a retention until this is done.

4.8 Information and guidance

The Planning Portal^{‡‡} is an excellent source of information for householders and building professionals, but as householders have not been approached directly in the course of this research, it is not possible to comment on whether knowledge of the website is widespread. It is also not apparent from the title of the website that it also provides information about the Building Regulations, although it is clear once you access it. For those who know where to look, the Government's Planning Portal website provides details about what is permitted development. It also provides information about the Building Regulations, and the difference between planning permission and the Building Regulations. Additionally, it refers to responsibilities under construction Health and Safety regulations. We did receive some feedback that the most user-friendly material tends to be that available from the Planning

^{‡‡} <http://www.planningportal.gov.uk/>

Portal website, so some local planning authority officers direct applicants to this website rather than providing hardcopy material.

It has been suggested that less than 10% of home owners would employ an architect or other qualified construction professional such as a surveyor if they wished to build an extension to their house. They typically employ a builder, and the builder may engage a plan drawer or an architectural technician. The client (homeowner) is likely to rely on the builder/architect/surveyor/project manager for their information regarding the application of planning requirements. Homeowners as clients are generally not aware that planning and building control require separate applications. Due to this lack of awareness, there is often an assumption made that if the building works are a Permitted Development, for example an extension, a building control application is not required. This assumption that as planning permission is not needed there are no other regulatory processes to be complied with can also result in other regulations being by-passed (Construction Design and Management, the Party Wall Act, Asbestos Regulations etc). Occasionally, the entire building control process is missed due to a lack of knowledge or understanding of the requirement. The lack of knowledge is likely to be greatest when a building project is self-managed. The confusion relating to the need for planning and/or Building Regulations compliance is being reported by some local authorities as worsening following the expansion of permitted development. DCLG should consider this in light of plans to further extend permitted development rights.

If a client is aware that their project is in a conservation area, they are likely to expect that planning permission is required; however they may not be sure which type of planning consent is required. Additionally, they may not be aware that they need to submit a Building Regulations application. The Planning Portal website provides details as to what is considered to be a permitted development; however it does not discuss the implications of work in a Conservation Area and its relationship to either obtaining planning permission or complying with Building Regulations.

For all scales of project, it is possible for the client (whether a homeowner or a developer) to determine the building control route which is followed. This may be either via the local authority building control body or via a private approved inspector. The provision of choice is good; however there is no obvious guidance to assist the uninformed, such as homeowners, in selecting the most appropriate building control route for their requirements. This is because Government feels it should not influence a commercial decision. If a construction professional is engaged, an architect, surveyor or project manager, they will usually advise the client on the most appropriate building control route.

5 Conclusions

5.1 Introduction

The focus of this project has been mapping the interfaces between building control and other regulatory regimes which impact on a building, with a target audience of policy makers. The issues that the project outputs highlight have been extracted from an initial literature review and subsequent broad based stakeholder engagement. A key output from this project is a series of process maps to convey these interfaces. These maps are annotated with issues put forward by those engaged on a daily basis with construction.

The complexity of the construction process required us to deriving maps for specific scenarios. These represent a wide range of project types (new build, extension) and scale (house, large office); regulatory circumstances (permitted development, demolition, conservation area); sectors (housing, education); procurement routes (traditional, private finance initiative); locations (central London, areas with strict sustainability requirements); environmental considerations (ecology); and clients (public sector, affordable housing, private house builder, developer) whilst trying to represent typical rather than exceptional cases. Both building control routes – local authority building control body and approved inspector – were also considered.

It has been concluded that all of the required information cannot be conveyed in one document per scenario and, even then, ideally the map needs to be presented at A2 size. The two documents presented for each scenario in the Appendices are:

1. A visual image of the project stages, the regulatory requirements and the interactions over the design and construction process.
2. A table to show which regulatory document is produced by whom to achieve compliance. It expands on the map from the process perspective.

To provide a suitable construction timeline, the RIBA Plan of Work was used. However, not everyone who was consulted was familiar with it, and some felt it would be preferable to map the processes against key project milestones (feasibility, outline planning, detailed planning, construction phase, regulatory sign off, occupation).

During the final consultations, three key comments relating to the selected scenarios were received; however the main issues we identified are still valid. These were:

- For the vast majority of projects such as house extensions, the home owner would not employ an architect or surveyor and they would be relying on the builder (who may themselves make use of an architect) to provide information.
- In central London, it would be very unusual to construct a large office building, and far more typical to convert an existing building, whether already an office building or not.

- Some of the comments about the Building Schools for the Future process are already being addressed by Partnerships for Schools (*and indeed the whole Building Schools for the Future process has since been abolished by the Coalition Government*).

It has been possible to obtain feedback from practitioners in a way which it is often difficult for policy makers to achieve. The research has highlighted that there are a number of misconceptions as well as variations in approaches which have the potential to be addressed. As a consequence of the specific nature of the considered scenarios, some of the issues which have been highlighted by construction professionals are also very specific. The more generic conclusions are highlighted here.

5.2 Conclusions

At a fundamental level there are very few conflicts between regulations. However, when factors are introduced by the planners, funders and/or client these can conflict with other aspects of the brief. It is by looking at this deeper level of project constraints that the issues emerge.

The first conclusion is that the construction process is complex, even with the limited range of regulations we mapped. This is because:

- there are sector specific requirements, regulations and standards (schools, healthcare, defence, offices, Crown Estates)
- there can be minimum environmental performance requirements driven by funders (Code for Sustainable Homes, BREEAM etc)
- regional planning requirements can be more demanding than local requirements (some schemes are referable to the regional body) and exceed Building Regulation requirements
- there are particular and varying local requirements driven by planners (sustainability, sustainable urban drainage system, renewable energy) which can also exceed Building Regulation requirements
- local authorities are at different stages in developing their planning policies and it can be hard to find all of the applicable policies
- more technical information is being required for outline planning, but there is a reluctance to commit funds to detailed assessments (eg of energy demand) or site investigations at this early stage
- there is a range of procurement routes, and the contractor can be involved at different stages depending on the route
- site specific environmental issues need to be taken into account, and
- selected design solutions can also invoke regulations, for example consideration of air quality in relation to the use of biomass boilers

Added to this, the economy as a whole will influence the type of development which is dominant at any given time (new build vs refurbishment, commercial offices, schools or healthcare). When there is a shift in the industry towards a less familiar sector, inevitably it

takes time for all parties to come up to speed (developers, design teams, contractors and regulators). This is particularly the case where there is a wealth of sector specific guidance and new procurement routes to master. More support is needed when major initiatives are launched (such as Building Schools for the Future) in recognition that teams not familiar with the sector will be undertaking projects in the absence of their typical work streams. Regulators themselves may also require more support. However this is not just a sector based issue (eg schools and hospitals); the need for awareness raising or new skills sets can also occur as a response to new trends in design, eg a movement towards low and zero carbon buildings.

A development's size also influences the ease of regulatory compliance. Where a large scale development is being undertaken, the project team will include a wide range of professionals who can advise on relevant regulations. On the whole the people we spoke to felt that although issues arose, they were just challenges which the team could overcome and which would only rarely threaten the actual completion of a project. Smaller scale projects will have a much smaller and typically less expert team. At the domestic scale, a homeowner wishing to construct an extension typically engages a builder, but possibly no architect, surveyor or project manager. It is also possible that a homeowner will self-manage and construct such an extension. Understanding the requirements of and complying with the relevant regulations is therefore harder for those managing smaller and one-off projects.

Building Regulations are set nationally, as broad statements of performance. These broad statements enable building control bodies to adopt a flexible approach. For example in a Conservation Area when agreeing to a lower performing standard for glazing in a domestic extension the building control body can then request higher performance in other areas of the design. The Building Regulations are supported by Approved Documents which set out a means, but not the only means, of compliance with the Regulations. Section 4 contains comments made in relation to Approved Documents.

There are three possible building control routes – via the local authority building control body, via a Partnership Authority Scheme, or via a private sector approved inspector. This does not complicate the process as such, as each has clear routes to follow, but several building control bodies may be involved with the same development in some cases. For example, for a building needing to comply with the London Buildings Act, the developer may choose to engage an approved inspector, but would need to liaise with the local authority building control body regarding demonstrating compliance with the Local Act. Furthermore, one building control route can be applied for the base construction, and another route employed by tenants for the fit-out and/or later refurbishment. For some national bodies, such as retailers, standard design solutions can be developed which can be applied in any area of the country.

Homeowners as clients are generally not aware that planning and building control require separate applications. The introduction of permitted development rights for minor works, avoiding the need for planning permission, can lead to a misconception that all regulations have been complied with, whereas the Building Regulations and other regulations still apply

(Rights to Light, Party Wall Act, Health and Safety legislation etc). Guidance included on the Department for Communities and Local Government's Planning Portal is clear about this, but if planning permission is not required, the homeowner may not view the site or contact the local authority. Any builder should, of course, advise their client about requirements and compliance. The confusion relating to the need for planning and/or Building Regulations compliance is being reported by some local authorities as worsening following the expansion of permitted development.

For a dwelling, typically a builder will choose to adopt a Building Notice route in terms of the Building Regulations application, requiring less information than a Full Plans route. However, in most cases, a Building Notice route will require more input from the building control body. DCLG is reviewing the scope of projects for which the Building Notice route can be used.

Planning policy is set at a regional and local level, resulting in variations in requirements between authorities. This means that developers have to design schemes appropriate to the prevailing policies. Local authorities are also at different stages in developing their policies, and it can be difficult to locate them. Local planning authorities differ in their requirements, both in absolute terms (percentage renewable energy contribution required) and in terms of the trigger point for compliance (a development of 10 new houses, or 15 etc). Developers are also finding that they need to undertake more technical studies (such as developing an Energy Strategy) at an early stage, whilst the project is still at risk of not proceeding.

The green agenda is rapidly developing and there is a lack of clarity about in which areas the two regimes (planning and building control) should set standards. Planning allowing local variation and building control applying national standards; **this clarity is needed.**

At the project outset some local authorities adopt a proactive approach to providing information on planning permission and Building Regulations at the same time; this is a good model. More typically there is no communication between the two departments. If development control officers had a better knowledge of Building Regulations at an overview level they would be able to identify early in the application process where a scheme may be in danger of breaching the Building Regulations, or at least where the design may cause a conflict between policy and the Regulations. Alternatively if both the development control and the building control case officers were present at a pre-application meeting with the applicant, any issues relating to policy, Building Regulations and potential conflicts between the two could be identified from the outset.

More Building Regulation compliance issues are likely to arise where an existing building is being converted or refurbished, than is the case for a new development.

The interactions between the Building Regulations and other regulations have been reviewed, and issues identified in relation to air quality, fire safety, and local acts. Other regulations have been reviewed and issues identified even though there is no clear link to the Building Regulations.

With regard to regulatory compliance, often the issue for the design team is not the need to provide the same information to more than one body (duplication) but the timing of responses from different bodies, causing delays whilst there is a need to maintain the project's momentum.

Site specific legislation was also reviewed. The most apparent links are between ground conditions and Part A - Structures, and between flood risk, drainage strategies and Part H – Drainage.

The main focus on sector specific regulations, tools and guidance related to schools. Prior to a local authority being awarded Building Schools for the Future funding, there is a period of approximately 18 months which provides the opportunity to develop a clear brief. Partnership for Schools is of the opinion that potential conflicts between Planning and Building Regulations could be captured within this period and they have published their "*Readiness to Deliver*" documents which highlights many of these issues. There is a wealth of Building Bulletins relating to schools design and particular mention was made by the construction professionals of those relating to fire safety, ventilation and acoustics as a source of issues.

Although not the intended focus of this project, a number of issues have been raised regarding the building control process. One issue is the difference in experience depending on whether the local authority building control body or an approved inspector is engaged.

The final key theme that emerges relates to sources of information. The Planning Portal is an excellent source of information for householders and building professionals, but as householders have not been approached directly in the course of this research, it is not possible to comment on whether knowledge of the website is widespread. Better information is needed for small builders and regulators and the outputs from this project could contribute to a communications programme.

For scenarios 1 and 2 (domestic extension and loft conversion and domestic extension in a conservation area), most of the required processes can be included on a map which would make it a useful tool for a small builder, combined with the updated Building Regulations Handbook.

For scenario 3 (small residential development) the map currently includes a lot of issues which are location specific, hence it is too complicated and has limited appeal. If some of the location specific issues were removed and more emphasis was placed on the regulations, this could also be a useful tool.

For scenario 4 (the Building Schools for the Future secondary school), due to proposed changes, we do not recommend wider use of our map, instead information should be channelled via the Partnerships for Schools team.

The map for scenario 5 was developed for a new office, but there may be merit in considering developing a map for a conversion project as well.

Finally, some of the current misunderstandings and lack of information need to be addressed through targeted communications:

- There is no hierarchy of Regulations – it is not apparent that everyone understands this.
- Planning permission granted via Permitted Development rights does not mean there is no need to consult with the regulators, to obtain Building Regulations approval and to ensure compliance with other regulations. The small builder is typically in the role of providing technical advice, yet it is not clear how well are they supported in this role. The trend towards presumption of compliance with all regulations needs to be considered as part of the proposed extension of Permitted Development.
- Better use of the Planning Portal and better awareness by the general public of this resource. The website contains information on Building Regulations as well as planning but this is not evident from its title. All building control and planning/development control sites could link to the Planning Portal. We also suggest a review of the content relating to conservation areas and addition of information.
- Amongst developers, we believe the Partnership Authority Scheme is not widely known about.
- A better understanding of the Building Regulations would enable development control officers to alert applicants to potential problems with Building Regulations compliance as part of feedback to developers on their initial application.
- With respect to low and zero carbon energy strategies, the technical expertise is generally in the Building Regulations team, but the requirement is often in the planning team. This needs to be resolved.

Appendices

General points:

Roles within individual project types may be taken by different professional groups, for example an architect, architectural technician or surveyor depending on the project and scale. The generic title for this role is “designer”. Similarly a “client” may be a homeowner, developer or owner occupier.

The regulations which have been mapped reflect the issues raised during discussions about a particular project type and should not be regarded as an exhaustive list. For example, a small residential development may have to consider the Party Wall Act; Rights of Light may apply to a new school; and flood risk and the Highways Act may apply to an office building.

Scenario 1: Domestic extension

Scenario 1

A two-storey semi-detached house situated in London is to have a single-storey ground floor extension of 18m² and a loft conversion to provide 30m² of new sleeping accommodation. The work also includes structural alterations at ground floor level. The ground floor extension incorporates a kitchen; hence works to gas, drainage and electrical services are involved. The dwelling is not a listed building, nor is it located within a conservation area. At this scale, the proposed works are not permitted development.

Use of the map

The map has been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Each map is based on a specific project type and in no way should the maps be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. Issues have been identified through interviews and by their very nature may be subjective.

Map and table published separately in the publication title: *Mapping the interfaces between building control and other regulatory regimes which impact on a building: Scenarios for appendices case studies.*

Scenario 2: Domestic extension in a conservation area

Scenario 2

A two-storey semi-detached house situated in London is to have a two-storey extension to the rear no higher than the highest point of the existing building and with a footprint of 18m². The extension is to include a kitchen downstairs and bathroom upstairs; hence the installation of gas, drainage and electrical services are involved. Ordinarily, the works would be classed as a Permitted Development; however the dwelling is located within a Conservation Area and therefore planning consent is required for the two-storey extension. An application can be made for a 'Certificate of Lawfulness' for the other elements to prove they are exempt from requiring consent.

Use of the map

The map has been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Each map is based on a specific project type and in no way should the maps be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. Issues have been identified through interviews and by their very nature may be subjective.

Map and table published separately in the publication title: *Mapping the interfaces between building control and other regulatory regimes which impact on a building: Scenarios for appendices case studies.*

Scenario 3: Small residential development

Scenario 3

A row of 10 terraced houses will be built on a brownfield site situated in the middle of a city centre. There is currently a solid brick warehouse that will need to be demolished and the site will be cleared before the construction of the new dwellings.

The proposed development is in a city with strict sustainability requirements, and at 10 dwellings, it is deemed to be a major development and will need to demonstrate compliance with the council's Sustainable Design and Construction Supplementary Planning Guidance including the Sustainability Checklist. However, as the site is less than 0.5 ha and there will be less than 15 dwellings, affordable housing provision is not required by the local planning policy. Therefore all dwellings are to be built for private sale.

Use of the map

The map has been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Each map is based on a specific project type and in no way should the maps be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. Issues have been identified through interviews and by their very nature may be subjective.

Map and table published separately in the publication title: *Mapping the interfaces between building control and other regulatory regimes which impact on a building: Scenarios for appendices case studies.*

Scenario 4: A secondary school

Scenario 4

A secondary school is being constructed through the Building Schools for the Future programme. The school will have a floor area of approximately 10,000m², and contain a mix of classrooms, offices, toilets, circulation areas and a hall. The hall will also be available for public use outside of school hours. A biomass boiler will be installed to meet CO₂ reduction targets.

The design and construction is subject to a set of processes governed by Partnership for Schools who are tasked with delivering the Building Schools for the Future programme. The programme outlines a standard procedure for the short-listing and identification of a preferred bidder and the relationship with planning, which is more complex than for a traditional procurement route. The Building Schools for the Future process has recently been updated, so some school construction projects are still being built in accordance with the previous process, whereas others are applying the new approach.

Use of the map

The map has been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Each map is based on a specific project type and in no way should the maps be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. Issues have been identified through interviews and by their very nature may be subjective.

Map and table published separately in the publication title: *Mapping the interfaces between building control and other regulatory regimes which impact on a building: Scenarios for appendices case studies.*

Although the Building Schools for the Future programme has now been terminated, many of the issues will still be relevant to schools design.

Scenario 5: An office

Scenario 5

A new 12-storey office building is being constructed in an inner London borough, requiring an existing building to be demolished. With a height exceeding 30m and a total floor area in excess of 20,000m² the planning application for the development will be referable to the Greater London Authority. The development is speculative, led by a private developer, who will not fit out the interior until future tenants have specified their requirements. The London Buildings Acts (Amendment) Act also applies in respect of fire safety.

Use of the map

The map has been prepared to illustrate the interaction between regulatory regimes and to record any issues arising. Each map is based on a specific project type and in no way should the maps be taken to prescribe a general route map for construction projects. All maps should be read in the context of the report which they accompany. Issues have been identified through interviews and by their very nature may be subjective.

Map and table published separately in the publication title: *Mapping the interfaces between building control and other regulatory regimes which impact on a building: Scenarios for appendices case studies.*

Scenario 6: Case study of a mixed-use development

The complexities involved in a large scale mixed-use development

1. Introduction

Viewed from the perspective of the client/developer, this case study considers a mixed-use scenario with a range of clients located in an area with clearly defined sustainability and low carbon energy requirements. It identifies where meeting the regulatory and other regional/local policy and client requirements can give rise to issues which impact on the construction process. It has been considered in the early stages of design only.

The theoretical development comprises:

- 700 dwellings, including 100 flats
- two shops
- a school
- a community building
- a doctors' surgery, and
- an energy centre with a biomass boiler to supply district heating and hot water to the development

The clients are a combination of a major developer (of both commercial and domestic property) and a housing association.

2. Aspects influencing the developer's brief

The first step is for the developer to identify the brief. The key characteristics of this development, those which define the regulatory/requirements mapping framework and hence the issues faced, are listed below.

- 1. Location/Local Policy** – The development is assumed to be located in an area with a Unitary Authority which has a Sustainable Construction Policy supported by a Supplementary Planning Document. The policy requires sustainability to be included for all new residential development exceeding 5 dwellings, and applies to all other development with a gross floor area exceeding 1,000 sq m.
- 2. Development Size** – The development size will trigger the requirement for an Environmental Impact Assessment. The size and mix of building types also mean that the development will be constructed in phases over a number of years. Therefore, the energy strategy will need to take into account the phasing, interim energy supply solutions, and the point at which the district heating scheme will become the primary energy source.
- 3. Selection of Energy Source for the District Heating Scheme** - The inclusion of a biomass boiler requires an EPR2000 permit to be obtained; the legislation to be satisfied in obtaining this (ie Clean Air Act or Pollution Prevention Control Part B) is dependent on the plant size and fuel type.

4. Environmental Requirements Imposed by Funding Bodies - The developers will need to meet the requirements of the mix of funding bodies supporting the project, ensuring that where these overlap with the planners' requirements, the most stringent criteria are met. For example:

- The registered social landlord dwellings will have a requirement for a minimum Code level 3 rating (and probably an expectation that Code level 4 will be met) and for Lifetime Homes. They may also have a requirement for Secured by Design principles to be adopted. It is assumed that some wheelchair accessible units will be constructed as part of the affordable housing provision. In our example, Code level 4 is a means to demonstrate compliance with elements of Sustainability Policy but it is not a stated requirement. For the private housing, the developer may choose not to declare a nil rating for Code and not to build the dwellings to Lifetime Homes standards.
- The funding of the school by the Building Schools for the Future programme will require a minimum BREEAM rating of Very Good. For this local authority, satisfying the sustainability requirements can be demonstrated through delivering buildings to a sector-specific BREEAM rating of Excellent.
- The Department of Health has requires a BREEAM assessment for new build healthcare schemes and refurbishment projects. However, the BREEAM requirement of an Excellent rating only applies to new build projects with a capital cost in excess of £ 2m. In our example, we have assumed that the costs will be less than this, and so no assessment is required. In relation to the local authority's sustainability requirements, the gross floor area is less than 1,000 sq m and so the building is not required to demonstrate compliance. The community building is assumed to be operated by the local authority. The building will have a gross floor area of less than 1,000 sq m and so is not required to demonstrate compliance specific sustainability requirements.

5. Requirement for Energy Performance Certificates - The Energy Performance of Buildings Regulations mandate the production of energy performance certificates on construction for all dwellings and for all non-domestic buildings in excess of 50 sq m. In the case of dwellings the Home Information Pack regulations require Predicted Energy Assessments for properties being sold off plan, ie marketed before they are physically completed.

Note, the requirement for a Home Information Pack, and hence a predicted energy assessment for off-plan sales has now been abolished.

For all public sector occupied properties, or those frequently visited by members of the public, over 1,000 sq m, there is a requirement to produce a Display Energy

Certificate. This is to be available from the moment of occupation or use. This requirement will apply to the school.

- 6. Sector specific legislation, best practice and other requirements** - The Building Schools for the Future funded school will need to comply with Building Bulletins written specifically for school buildings, and there is a financial incentive of an additional £50/sq m if a particular carbon target is reached, however it is understood that this incentive is being reviewed by the Partnership for Schools team. The community building will be subject to noise, alcohol licensing and food hygiene regulations. Healthcare buildings typically have to comply with Health Building Notes and Healthcare Technical Memoranda.

Note the Building Schools for the Future programme has now been terminated, but sector specific guidance will still apply to new school designs.

Finally, there may be some generic requirements such as demonstration that the contractor will seek to train and/or employ some local labour.

Overall, the developer is faced with a mix of national, local and funding body requirements, some of which overlap or may contradict themselves. By consideration of all of these requirements, the brief and the regulatory framework are identified as are the statutory bodies with which consultation will be required, see Table 1.

3. Summary of issues

The list below presents a summary of the specific issues of greatest concern raised by industry experts in relation to a mixed-use development:

- The local sustainability issues which developers need to address as set by the local planning authority can vary considerably, even within the same geographic region. Developers would welcome consistency in the standards to which they need to build. As a result of the Planning Policy Statement 1 and the supplement on Climate Change, planners have been encouraged to set targets for energy efficiency, low carbon energy supplies and renewable energy. The local planning authority may set a direct requirement for energy performance, or it may be indirect via a requirement for a minimum BREEAM or Code standard.
- In some areas, developers are consulting with building control at a much earlier stage, eg Royal Institute of British Architects Stage B. They want assurance that their proposed energy strategy, developed to meet the planners' requirements, will also be acceptable to building control. If the project is not granted planning permission, and the design is changed significantly, this can also impact on the building control team, as they will need to review and advise on the revised proposals due to their early involvement in the project.

- Although planning policy officers are setting energy requirements for buildings they may not understand the proposed technical solutions in detail.
- The inclusion of sustainability and energy requirements in planning requires the developer to obtain more 'at risk' technical consultancy support at an early stage than previously.
- Once outline planning permission has been granted, site investigations may result in initial proposals for foundations and or Low and Zero Carbon technologies (eg wind turbines) needing to be amended.
- Due to their increasingly earlier involvement, building control may need to revise their initial advice. This could occur following design changes if planning permission is not granted for the initial submission, and/or if there are design changes at a later stage. It is important for the client team to establish at the briefing stage whether or not Rights to Light and Rights of Way apply.
- At an early stage in the project, the client should request a Screening Opinion from the local planning authority to confirm if an Environmental Impact Assessment is required and, if so, which issues need to be assessed. The Screening Opinion is to be issued to the client within five weeks. If the Screening Opinion is not sought until Stage D, the project risks significant delays.
- The Environment Impact Assessment results in the preparation of an Environmental Statement describing the likely significant effects of the development on the environment and proposed mitigation measures. If the project design is deemed to create any unacceptable impacts under relevant legislation (ie visual, noise, groundwater, air pollution), design changes will be necessary until there are no significant and unacceptable effects on any aspect of the environment. The final Environmental Statement must assess the final Detailed Design. Therefore delays to the overall programme may occur through design changes to ensure the scheme complies with all relevant environmental legislation. A number of iterations may occur as one change may impact another environmental issue. Any changes that affect the design of the building itself will generally be an issue for building control.
- Provision of early stage information in relation to the proposed fire strategy may lead to a planning issue at a later point. This is because detail which the planners wish to comment on is typically not available at the time. If there is a conflict of opinion, the planners and design team will then need to negotiate.
- Failure to address flood risk and sustainable drainage issues at an early stage and throughout a developing design can lead to subsequent compliance issues. The Environment Agency only requires a Flood Risk Assessment at an 'appropriate degree at all levels of the planning process' and there is a grey area as to what "appropriate degree" actually means. Developers would welcome clarity and consistency with respect to the requirement to produce a flood risk assessment.

- Initial pre-assessments are typically carried out for BREEAM and Code to demonstrate any minimum required ratings can be achieved. Subsequent design changes may affect the award of individual credits meaning that, if minimum ratings are required, the schemes can potentially no longer meet the planning requirements. Adding to this, the opportunity to obtain some credits may be lost due, for example, to planners' restrictions on materials selection.
- In some cases, the design team will commission a survey or report without awareness of the separate criteria required by, say, BREEAM in order to achieve a particular credit. An early awareness of the BREEAM requirements can lead to greater efficiencies (for example carrying out only one ecological survey by a suitably qualified ecologist).
- Within BREEAM and Code assessments, credits are only achieved for carrying out actions that exceed regulatory requirements. There may be a perception that the client or design team is being asked to provide the same information, fundamentally, in two different formats – one for Building Regulations compliance and the other for the BREEAM credit. In practice, the BREEAM requirements should be more onerous or broader in scope than the regulatory requirements.
- In relation to air quality, there may be regulations and requirements imposed by the Environment Agency, the environmental health officer, and in relation to a development in an Air Quality Management Area. From a building control perspective, the compliance issue is the achieved ventilation rate and ensuring sufficient air enters a building, but not its quality.
- When determining the Section 106 agreement, the local planning authority is likely to include other considerations within their negotiations. These can be:
 - A Section 38 agreement - for new estate road developments made between the developer and the local authority as the Highway Authority to ensure they are adopted for future public maintenance, under Section 38 of the Highways Act 1980
 - A Section 278 agreement – this may be needed between the developer and the local authority as the Highway Authority for works to be carried out on the existing adopted highway, under Section 278 of the Highways Act 1980. The local authority may provide the works at the developer's expense, or may allow the developer to provide the works directly, subject to an approval and inspection process
 - A Section 104 agreement - a 2 stage process with the water authority, under Section 104 of the Water Industries Act 1991. The first stage is the developer's enquiry to determine the principles of how the site can be drained and any infrastructure improvements to accommodate the flows. The second stage is the detailed S104 application.

- Where noise and air quality are of concern, the environmental health officer will be consulted and their concerns reflected in the Planning Permission and any reserved matters
- Provision for the introduction of the Community Infrastructure Levy is now in place in the 2008 Planning Act to address:
 - The need for a development to contribute to the provision of infrastructure either directly or indirectly related to the development in question
 - The view that the planning obligations (Section 106) provisions currently provide only a partial and variable response to capturing funding contributions for infrastructure.

Table 1 – Requirements impacting on the brief

Element of the development	Regulatory requirement	Local or national requirement	Origin of the requirement
Houses – to be owned by a Housing Association	Code for Sustainable Homes (CSH) Level 3 (expectation of level 4)	National	Imposed by the Homes and Communities Agency (HCA) for grant funded projects
	Lifetime Homes	National	A requirement for housing association (HA) owned dwellings
	Housing Quality Indicators	National	Minimum housing performance standards applied by the HCA. They include Building for Life principles.
	On Construction energy performance certificate (domestic)	National	A requirement of the Energy Performance of Buildings (EPBD) Regulations triggered by Construction
	Requirement for 25% better than Building Regs Part L and 10% renewable energy contribution. Requirement for zero carbon development or contribution to a carbon offset fund A number of other sustainable construction focused requirements in relation to water, materials, waste etc	Local	A requirement of the local authority's local Sustainability Policy
	Code for Sustainable Homes Level 4	Local	Code for Sustainable Homes level 4 is one means of demonstrating

			compliance with the local authority's Sustainability Policy
Houses - private developer	On Construction energy performance certificate (domestic)	National	A requirement for energy performance certificates triggered by Construction
	Predicted Energy Assessment (PEA) <i>No longer applies</i>	National	A requirement of the Home Information Pack Regulations (HIP) Regulations triggered by a dwelling being sold off plan. The On Construction energy performance certificate will need to be provided on or before contracts are completed
	Inclusion of the an energy performance certificate in the Home Information Pack (HIP) <i>NB HIPs are no longer a requirement</i>	National	Applies to dwellings sold once completed. A requirement of the Home Information Pack (HIP) Regulations triggered by a dwelling being marketed for sale.
	Code for Sustainable Homes Level 4 is one means of demonstrating compliance with the local Sustainability Policy	Local	A requirement of the local authority's local Sustainability Policy
Flats - HA and private	As above plus a fire safety risk assessment to be carried out and a fire risk management plan to be produced and maintained by a local responsible person for the communal areas	National	A requirement of the Regulatory Reform (Fire Safety) Order
Community building	On Construction energy performance certificate (non-domestic)	National	A requirement of the Energy Performance of Buildings (EPBD) Regulations triggered by Construction
	Display Energy Certificate	National	Driven by the Energy Performance of Buildings Regulations, but not applicable as the building is assumed to have a gross floor area less than 1,000 sqm.
	Acquisition of a premises license, requiring fire safety risk assessment and	National	A requirement of the Licensing Act in order to be able to carry out licensable activities, eg sale or

	implementation and maintenance of a fire risk management plan; prevention of noise nuisance and light pollution		serving of alcohol; holding of events.
	No local sustainability requirements as the building is assumed to have a gross floor area of less than 1,000 sq m.	Local	A requirement of the local authority's local Sustainability Policy
	BREEAM Excellent	Local	This would be a means of demonstrating compliance with local Sustainability Policy but is not applicable as the building is assumed to have a gross floor area less than 1,000 sq m.
School	On Construction energy performance certificate (non-domestic)	National	A requirement of the Energy Performance of Buildings Regulations triggered by Construction
	Display Energy Certificate	National	A requirement of the Energy Performance of Buildings Regulations triggered by the being over 1000 sq m and frequently visited by members of the public. A certificate will need to be displayed from the day the school opens.
	Local Sustainability requirements as the building is assumed to have a gross floor area of greater than 1,000 sq m.	Local	A requirement of the local authority's local Sustainability Policy
	BREEAM Excellent	Local	Optional - a means of demonstrating compliance with the local Sustainability Policy
	BREEAM Very Good (minimum) <i>NB The Building Schools for the Future programme no longer exists but other new build schools programmes are likely to include a minimum BREEAM rating</i>	Client/Funder	Department for Children, Schools and Families (DCSF) requires a BREEAM assessment and a minimum BREEAM rating of Very Good for schools funded under the Building Schools for the Future Programme. This applies where projects are valued at > £500,000 for primary schools and > £2m for secondary schools, and involving rebuilding or complete refurbishment of more than 10% of the floor area of a school

	Low carbon design, linked to a funding trigger	Client/Funder	Department for Children, Schools and Families encouraging all new schools, both primary and secondary, to reduce calculated carbon emissions by around 60% compared with a Building Regs Part L 2002 baseline. If this can be demonstrated at design stage, additional funding is available (£50/sq m)
Doctors' surgery	On Construction energy performance certificate (non-domestic)	National	A requirement of the Energy Performance of Buildings Regulations triggered by Construction
	Display Energy Certificate	National	Assumed not to apply, as the building will be below the threshold gross floor area of 1,000 sq m.
	No local sustainability requirements as the building is assumed to have a gross floor area of less than 1,000 sq m.	Local	A requirement of the local authority's local Sustainability Policy
	BREEAM Excellent	Funder / Local	Assumed not to apply as the capital costs will not exceed £2m. BREEAM would not be required for private healthcare premises. A BREEAM Excellent rating would demonstrate compliance with the local authority's local Sustainability Policy if it applied.
Shops	On Construction energy performance certificate (non-domestic)	National	A requirement of the Energy Performance of Buildings Regulations triggered by Construction
	No local sustainability requirements as shops will be less than 1,000 sq m.	Local	A requirement of the local authority's local Sustainability Policy
Energy centre with biomass boiler	EPR 2000 permits	National	For a plant size ranging from 50kW to 500kW the applicable legislation would either be the Clean Air Act or PPC Part B (if >400 kW and using untreated wood waste).
Whole community			
Building Regulations		National	Compliance confirmed either via a local authority building control body or the approved inspector
Development		Local	The planning application could be

Planning			determined by the local council or by the planning authority if the development was within an expansion area. Development Planning will liaise with others on issues such as Highways (impact on existing roads, and new adoptable roads), Water (connection to adopted sewers) and Noise and Air Quality (driven by the Environmental Health Officer).
Health & Safety		National	Construction Design and Management Construction Design and Management Regulations and Approved Code of Practice (2007)
		National	Workplace regulations
Environmental Impact Assessment (EIA)	EIA required resulting in an Environmental Statement (ES) describing the likely significant effects of the development on the environment and proposed mitigation measures.	National	Submitted as part of the planning application A requirement arising from European Directive 85/33/EEC (as amended by 97/11/EC).
Fire	A fire safety risk assessment to be carried out and a fire risk management plan to be produced and maintained by a local responsible person for the communal areas	National	A requirement of the Regulatory Reform (Fire Safety) Order
Rights to Light	Neighbours with established rights are entitled to maintain these	National	Rights need to be established locally.
Rights of Way		National	Rights need to be established locally.

Department for Communities and Local Government
© Crown Copyright, January 2012

ISBN: 978-1-4098-2900-3