INCLUSIVE ACCESS, SUSTAINABILITY AND THE BUILT ENVIRONMENT
INTRODUCTION

Inclusive access is an integral component of sustainability because it helps eliminate the need for costly structural change during a building’s life, thus contributing to economic viability and long-term usability. Designing built facilities that are truly inclusive requires the building industry to engage in creative consideration of end-users’ needs going beyond physical features to include services, management and an understanding of lifestyles. In 2009 and 2010 The College of Estate Management, together with the Vassall Centre Trust, Bristol and supported by the Ove Arup Foundation, organised a series of workshops on 'Inclusive access for higher performing buildings' (CEM 2009). Valuable feedback from both UK built environment professionals and disabled people highlighted that successful delivery of inclusive access involves:

- Collaborative working within built environment project teams, emphasising the value of early and continuous consultation between designers, local authority officers, specialist consultants and people representing the disability case.

- A need for the fullest appreciation of the widest aspects of disability/diversity in order to understand the philosophy of why something needs to be done and to be able to envisage built spaces though someone else’s needs.

- Awareness of the view that legislation and regulation have not, and will not, deliver inclusive access and can act as a brake on creative thinking.

- The need to keep abreast of developments in accessible and assistive technology, including ICT, and in assistance/support services which facilitate improved use of built environments by disabled persons.

- The desirability of identifying and disseminating best practice, suggesting a need for an inclusive access ‘information service/bank’. Best practice must become standard practice.
WHAT IS THE SCALE OF THE ISSUE?

Much of the existing built environment predates inclusive access legislation. Significant physical environmental barriers therefore remain: for example, steep gradients, steps/stairs, uneven/slippery surfaces, heavy doors, poor lighting, narrow corridors and inadequate signage. These barriers have consequences for the increasing number of disabled people in the UK – how they use the environment and, therefore, for their life choices and lifestyles. Disabled people are frequently disadvantaged in terms of education, employment, income, housing and leisure, in addition to facing higher living costs.

At least one in five adults and one in 15 children in Great Britain (the statistics exclude Northern Ireland) are directly affected by disability and many more family, friends and carers are indirectly affected (Disability Rights Commission (DRC) 2007). There is a strong correlation between age and disability, with 77% of people becoming disabled during their working/later lives and 40% of those disabled are over 65 (Burchardt 2003). The demographic shift being experienced in Great Britain means that the population over the age of 65 is forecast to increase by 40% by 2040. If age-specific disability rates remain constant, the number of disabled people will increase by 40% by 2020 (Institute for Public Policy Research (IPPR) 2007) and 58% of the population over the age of 50 will have a long-term health problem (Government Actuary’s Department 2004).

THE IMPACT OF LEGISLATION

This paper argues that clients and designers of built facilities need to look beyond legislative requirements in creating places that are accessible to all. First, it is important to have an understanding and appreciation of the relevant legislation.

Equality legislation in Great Britain is issue specific. A government initiative by the Department of Communities and Local Government (DCLG) in 2009 resulted in the Equality Act becoming law in March 2010. Of the six issues covered by the legislation – race, gender, age, disability, religion/belief and sexual orientation – the built environment industry must take the lead in the removal of physical environmental barriers which restrict or prevent disabled people from participating fully and independently in society. Therefore, while inequitable access is a complex social issue, not wholly a scientific or engineering problem, the design, construction and management of the built environment is the prime facilitator of inclusive access.

From October 2010, the Equality Act replaces the Disability Discrimination Act (DDA) 1995, providing for a phased introduction of regulations primarily geared to improving the accessibility of goods and services. The new Act does not fundamentally alter Part III of the DDA, which since October 2004 has required service providers to take ‘reasonable’ steps to remove physical barriers to accessing services. Also, it is proposed that from April 2011 the public sector disability equality

...
duty is replaced by a single equality duty (with a wider remit) and government policy making will be subject to equality impact assessment.

Currently, UK equality legislation does not automatically imply a requirement to improve existing built facilities, but it is nevertheless having an effect as many businesses undertaking building refurbishment incorporate reasonable adjustments to upgrade access. Transport systems do not have to fully comply with accessibility requirements until 2016. However, because lead times for infrastructure, such as buses and trains, can be very long, companies ordering new vehicles and building interchanges are already implementing improvements (Mathews 2002).

The Building Regulations, whose principal purpose is to ensure the health and safety of people in and around buildings, set out mandatory, national standards for most aspects of a building’s construction. Part M details the specific requirements regarding access for disabled users, but these must be viewed as minimal requirements. There are superior advisory standards – British Standard BS 8300 covering the design of buildings to meet the needs of disabled people and the lifetime homes standard (Brewerton and Darton 1997; Centre for Policy on Ageing 2008; Summer 2002) – which represent best practice.

Standards have variable status. For example, the lifetime homes standard is currently (2010) compulsory in Wales and Northern Ireland for all new social housing, applies in Scotland under slightly different criteria, but is adopted voluntarily in England via the code for sustainable housing. The lifetime homes standard will become compulsory for all new public housing by 2011, and the expectation is for all new housing by 2013, but the government has rejected calls for Part M of the Building Regulations to incorporate the superior lifetime homes design standards.

A considerable time lag is therefore to be expected in upgrading access throughout the built environment. For example, there is an estimated 300,000 shortfall of accessible housing for wheelchair users (DRC 2006a) and, at 1998 levels, disabled facilities grant funding covered less than 4% of eligible households. It is estimated that by 2020 the proportion of housing stock in the UK conforming to the Building Regulations Part M standard for access will be just 12% (IPPR 2007). Moreover, there can be a mismatch between need and provision where local authorities do not operate a disability housing register to help match stock with need in the case of social housing.
THE CHALLENGE FOR DESIGN TEAMS

One of the challenges for design teams lies in rationalising the sometimes apparently competing demands of access requirements with other areas of legislation and regulation; for example, fire regulations and listed building consent. It is not difficult to understand how satisfying regulations can become a main focus when undertaking a building project because the technical requirements can be very complex.

Nevertheless, design should always be approached first and foremost from the needs of end-users, and design for inclusive access must therefore consider disabled people as end-users, rather than treating ‘disabled access’ as a technical exercise to satisfy regulations. This is in itself challenging because the access needs of different groups of disabled people do not always dovetail. For example, dropped kerbs, essential for wheelchair users, can confuse visually impaired people unless tactile surfaces or audio signals are incorporated. Ramps required by wheelchair users to negotiate level changes are disliked by those with ambulant mobility problems or visual impairment, who prefer steps or stairs with handrails.

Inclusive access considerations therefore need to be incorporated from project inception, well before the design reaches an architect’s drawing board. The issues to be taken into account at each project stage, from inception to occupation, are examined below, but first this paper considers what it means to ‘think inclusively’ from the viewpoint of disabled people as end-users.
THINKING INCLUSIVELY

Inclusive access approaches are readily accommodated in established design processes, provided clients and project teams think inclusively. Often this involves thinking ‘outside their box’ or ‘beyond their comfort zone’, from project inception through to completion.

Ensuring inclusive access is a mainstream concern throughout the built environment industry and involves breaking down stereotypes, realigning value systems and accepting the social model of disability (Shakespeare and Watson 2002; Barnes and Mercer 2005) which acknowledges disabled people are excluded and disadvantaged by physical barriers as well as by social behaviour and attitudes. An inclusive society has no social or environmental barriers to equality of access and everyone has the opportunity to contribute and participate in everyday activities.

Thinking inclusively demands an approach which understands how design and management of the built environment affect an individual’s ability to move, see, hear, communicate, interact and undertake tasks.

Understanding the scale and consequences of disability for an individual's cognitive and physical capabilities to use built spaces is a prerequisite to arriving at design and management solutions that anticipate the needs and demands of all end-users. For example, since the majority of falls among the elderly occur while walking downstairs, could stairs be designed so as to reduce the risk of falls? The extent to which and how a disabled person fits into society depends on the interactions between their health conditions and their behavioural or operational milieu (National Centre for Social Research 2004).

There are therefore three principles underpinning thinking inclusively about built environment design and use:

- understanding differences and diversity (the most critical);
- promoting independence;
- ensuring integration.

Understanding differences and diversity

The difference diversity spectrum is multidimensional embracing age, gender, race, household characteristics, physical characteristics (e.g. restricted growth, oversize), sexual orientation and disability.

Disability is itself multifaceted, covering:

- health conditions (e.g. asthma, diabetes, heart problems, HIV, etc.);
- sensory conditions (e.g. visual and hearing problems);
- cognitive impairments (e.g. mental illnesses, poor perception of risk, learning difficulties);
- activity limiting conditions (e.g. affecting mobility, strength, stamina).
For any disability the pathologies vary greatly. For example, visual impairment can stem from a variety of causes including macular degeneration, diabetic retinopathy, glaucoma, cataracts and accidents. The degree of severity can also vary from mild to severe.

**Promoting independence**

It should not be assumed that people with impairments will always need or welcome assistance. Whether disability is lifelong, later onset or temporary, most people, wherever feasible, generally seek to do as much as possible for themselves in order to remain independent and autonomous.

Independent living is an established tenet of government policy, although not universally enacted (DRC 2006b; Gillison et al. 2005; Parry et al. 2004; Office for Disability Issues 2008). Inclusive access provides disabled people with the choice, autonomy and dignity inherent in the concept of independent living.

**Ensuring integration**

All end-users should be able to access and use the same space and facilities on similar terms, which acknowledges that the means for independent living will be different for different disabled people, in different behavioural environments and operational situations.

Social changes, medical advancements and assistive technologies are altering disabled persons’ expectations about accessibility, independence and integration to the extent that built environment professionals cannot second-guess the needs and preferences of disabled people. Equality results from positive responses to the diversity of interests and needs of individuals, which means recognising that disabled people do things in a different way, rather than treating everybody the same.

Following the UK’s ratification and adoption in May 2008 of the United Nations Convention on the Rights of Persons with Disabilities, disabled people have the same rights as other people and their emerging ‘right to control’ would imply, if not a requirement, certainly an opportunity to be consulted on environmental change.

The networking of built environment professionals with disability organisations and disabled persons in order to consult (and involve) the disability viewpoint in design, planning and management is a challenge – an information learning process to build appropriate skills and knowledge throughout the industry. Studying the coping strategies developed by disabled people to use ‘barried’ environments can stimulate design and management innovation, so strengthening the case for consultation.
THE INCLUSIVE DESIGN PROCESS

Promoting inclusive access throughout the built environment industry calls for awareness, understanding and knowledge of disability, allied with the necessary skills to adopt procedures and implement systems which achieve real change. The design team therefore needs the ability to think inclusively throughout the design, construction and management processes.

With built facilities, end-users (including disabled people) and commissioning clients are usually different entities. This is always the case with speculative building projects, but often, too, with bespoke ones. Further, designers, builders and facilities managers are not typical end-users and are rarely themselves disabled.

However, this is very much not the case at the Vassall Centre in Bristol, where an older building has been adapted, refurbished and extended by and for disabled people, as both a working environment and a community facility. It is from places like this that we can learn more about what works best.

The Vassall Centre project shows that while inclusive access must be delivered ‘from the bottom up’, it requires ‘top-down’ commitment. Designing, planning and managing change which caters for everyone in delivering barrier free space requires an appreciation of the role that each stakeholder, from commissioning client to end-user, can play in removing physical, discriminating barriers. Getting it right for disabled people means that everybody benefits.

A British Standard, BS 7000-6, exists for managing inclusive design at corporate and project levels (British Standards Institution (BSI) 2005). While such design processes are commonplace for major new build and redevelopment projects, they are not necessarily applied as creatively to smaller projects or to the change of use, refurbishment, improvement or redecoration of existing buildings. This needs to change.

The roles and responsibilities of project team members in creating barrier free space are outlined in Table 1 and the inclusive design process is shown in Figure 1.

Key aspects of delivering inclusive design highlighted by the process shown in Table 1 and Figure 1 are discussed as follows on page 11:

- budgeting for inclusive access
- using access specialists
- consultation to understand the disability viewpoint
- design and access statements
- managing construction and occupation.
### TABLE 1: Project roles in creating barrier free space

<table>
<thead>
<tr>
<th>Project phase</th>
<th>Team members’ responsibilities</th>
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<tr>
<td><strong>Proposal</strong></td>
<td><strong>Client/sponsor</strong>&lt;br&gt;• Define the type of occupier and activity the building is intended for.&lt;br&gt;• Produce the project brief, specifying that barrier free principles should be incorporated into the design – setting the ‘performance criteria’ for accessibility.&lt;br&gt;• Consider appointing an <em>access consultant</em> /specialist as part of the project team, who will formulate the access strategy/philosophy and develop the access statement in conjunction with the project team.&lt;br&gt;• If the project includes acquiring a site, incorporate accessibility into the site selection considerations, e.g. local transport systems, topography.&lt;br&gt;• Allocate funding for consultation and involvement of disabled people.&lt;br&gt;• Budget for inclusive access features in the building project, including contingency allowance for issues not at first foreseen.</td>
</tr>
<tr>
<td><strong>Design and planning</strong></td>
<td><strong>Architect/designer</strong> (could be a <em>building surveyor</em> on small projects)&lt;br&gt;• Make a visit to assess the site and any existing building(s) in light of inclusive access principles.&lt;br&gt;• With the access consultant/specialist, conduct a consultation exercise with disabled groups.&lt;br&gt;• Develop the <em>access statement</em>, which will be needed as part of the planning application.&lt;br&gt;• Undertake ‘design in’ to meet barrier free principles.&lt;br&gt;• Specify access features to be incorporated into the scheme.&lt;br&gt;• Show how the design will satisfy the Building Regulations – with input from other specialist members of design team, which could include a structural engineer, fire and safety adviser and landscape adviser.</td>
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<td></td>
<td><strong>Client/project manager</strong>&lt;br&gt;• Review the design to make sure it meets client objectives on access.</td>
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<td></td>
<td><strong>Planning and building control officers</strong>&lt;br&gt;• Participate in pre-application consultation on access issues where applicable.&lt;br&gt;• Receive the planning and building control applications, accompanied by the access statement, review them in light of regulations and make recommendations on approval/refusal/conditions to be applied.</td>
</tr>
</tbody>
</table>
### TABLE 1: Project roles in creating barrier free space (continued)

<table>
<thead>
<tr>
<th>Construction</th>
<th>Client's project manager/architect</th>
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<tbody>
<tr>
<td></td>
<td>Make sure the form of building contract ensures that key features are adhered to (the contractor cannot substitute cheaper alternatives that are less ‘accessible’).</td>
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</tbody>
</table>
|              | Brief the contractor on key aspects of the design that may vary from ‘normal’.
|              | Establish clear lines of communication with the contractor on site, and monitor and manage the building programme to make sure that the plans and specifications are followed accurately. |

| Contractor    | Stick to the plans and specifications as produced. |
|              | If access features prove difficult to implement, or alternatives become available, consult the project manager/architect before any amendments are made to construction details. |

<table>
<thead>
<tr>
<th>Handover and running</th>
<th>Project manager/architect/access consultant produce an occupancy access statement (in consultation with the client/facilities manager in a bespoke building) detailing:</th>
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<tr>
<td></td>
<td>management procedures needed to address any barriers that could not be designed out;</td>
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<tr>
<td></td>
<td>policies needed to maintain or improve on original access features (in response to future changes in best practice), e.g. the use of visual contrast in decorative schemes or signage design;</td>
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<td></td>
<td>maintenance priorities for essential facilities such as lifts and emergency alarms;</td>
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<td></td>
<td>facilities management to provide for ongoing management to ensure accessibility is maintained day to day;</td>
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<td></td>
<td>post-occupancy review to feed back good practice into future projects.</td>
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Budget for the project may include:
- The employment of an appropriate access expert
- Funding for consultation and involvement of disabled people.

Where appropriate, set up a Project Team. This should include an Access Expert.

If appropriate, initial consultation with the public (including local disability access group) should be carried out to identify needs/requirements.

Access Strategy and Project Philosophy to be written by appointed access expert, to set out a strategic policy on access.

FIGURE 1: The inclusive access design process

[Diagram showing the process with boxes for budget, internal team setup, initial consultation, access strategy, and decision points for available budget and business need/opportunity.]

Source: Ove Arup and Partners Ltd (CEM 2009: 18)
Commissioning clients, albeit amenable to the influence of professional advisers, determine the scope, remit, budget and timescale of projects. Their commitment to inclusive access must be genuine (Commission for Architecture and the Built Environment (CABE) 2003) if provision is to extend beyond compliance with minimum legal requirements.

Project budgets should allow for the costs of appropriate consultation with representative disability organisations and potential disabled users. A question also arises as to whether to employ an access specialist. The consultation process and use of access consultants are discussed further below.

For bespoke projects, inclusive access can more readily be argued as part of the business case by showing that facilities will be more usable to the widest range of people, regardless of ability, who could be customers, visitors or employees. Good access can therefore increase customer throughput, end-user satisfaction and employment potential. Economic considerations therefore need to go beyond initial build cost to embrace lifetime costs, reducing the need for future costly alterations.

Making the case to budget for inclusive access can be more difficult where:

- the development is speculative, therefore the end-user is not fully known;
- the client has an existing site which has constraints that make it more difficult to deliver accessibility, for example because access from the immediate surroundings is difficult;
- the commissioning client is not the ‘paymaster’ and faces a fixed budget, as can happen in the public sector.
However, the Vassall Centre project has shown that where inclusive access is embraced from the earliest phase of project design, features that aid accessibility, and that even go beyond the ‘statutory’ minimum, need not necessarily cost significantly more and are worth investigating. This can be particularly the case for structural elements. For example, a refurbishment project that involves adjusting a floor level or regrading a slope to avoid steps may attract value added tax (VAT) relief (HMRC 2002).

At the smaller end of the scale, in an interview a project manager at the Vassall Centre expressed particular frustration that many people fail to benefit from the VAT relief available for home refurbishment projects:

‘... I feel sorry for ... the little man and women in their home, with conversions that people need when they suddenly become disabled. Builders, plumbers and electricians are not aware that they don’t have to charge VAT. This is a major field that somebody needs to open up. ... The exemption form is ever so simple, but they don’t know about it. It’s not necessarily part of their training.’

Attention to designing in features that benefit everyone, and especially disabled people, can pay dividends without costing more. For example, non-slip floors in lobby areas, clear signage incorporating Braille and possibly audio instructions, and the intelligent choice of paint and colour contrast in decoration schemes, can make a huge difference to visually impaired people in finding their way about. From society’s viewpoint, there may also be additional savings which accrue within the public sector; for instance through mitigating the costs of social care and support services (Heywood 2001; Heywood and Turner 2007).

Inclusive access and sustainability are therefore complementary because of their potential to reduce whole life costs and improve building performance. However, more research is needed to support the limited evidence to date which demonstrates the cost-efficient case (Lansley et al. 2004; Meager et al. 2002).

The commissioning client is therefore the key, and may well need persuading by the architect/project manager that planning for inclusive access from the outset is a necessary, cost-effective and worthwhile objective within the client’s corporate social responsibility policy. Although the squeezing of budgets due to the economic recession might make some clients less amenable to this argument, it becomes more important for the wider community. Much therefore depends on the creativity of the design team.
USING ACCESS SPECIALISTS

Given the diversity of disability, the need to understand the complementarities of accessible and assistive technology and the availability of assistance and support services, there is a strong case for involving an access specialist. The National Register of Access Consultants (NRAC) details the types of building project and disability specialism of its members (NRAC 2005).

An access consultant can be valuable in advising on:

- the consultation exercise with disability groups;
- developing the access statements, needed in conjunction with the planning application process and at the occupation stage;
- design features to achieve inclusive access;
- the interface between built environment solutions and advances in technology.

On the technology front, the Royal National Institute of Blind People sees the potential of radio frequency identification devices, from smart cards and biometric systems to mobile communications and wireless systems, to help visually impaired people negotiate and use the built environment (Gill 2007). Such ambient intelligence systems need geographical positioning to be an integral part of the built environment infrastructure. Given that Wi-Fi technology is being increasingly embraced in modern commercial environments, such as shopping centres (Harris et al. 2008), it seems but a small step to incorporating accessibility functions that aid people with impairments.

A UK government green paper on care and support for older and disabled people (Department of Health 2009) also proposes preventative non-medical interventions entailing home improvements such as ‘telecare’. This involves a suite of sensors for remote monitoring of activity – for example at the property exit, fall detection, if gas or bath taps have been left on – which would be integrated into buildings to aid independent living. People suffering from seasonal affective disorder can be helped by interior lighting which imitates a sunny day (The Sunday Telegraph 2009).

Access solutions in the built environment can therefore involve everything from very basic physical provision to the use of sophisticated technology, making the role of the specialist adviser increasingly important.
CONSULTATION TO UNDERSTAND THE DISABILITY VIEWPOINT

In the UK, consultation has come to the fore since the 1995 DDA and, for public bodies, the Disability Equality Duty (DRC 2006c). The Disability Rights Commission policy on inclusive access (DRC 2002) sees consultation taking place as early as possible in the design process, commencing at project inception and continuing through planning and design, into management and operational matters, and as a crucial element informing the preparation of access statements.

Ideally, consultation needs to involve well-informed disabled persons, local access and other end-user groups. Those who acquire impairment during their working or later life can bring particular insight and a new dimension to understanding the way in which built features can impede or aid people with disabilities because they have had to adapt to a new way of living. Consultation generates a clearer understanding of disabled end-users’ needs and aspirations, ensuring that important factors about how disabled persons access and use a building are not overlooked, and avoids costly alterations or abortive work and associated delay.

Consultation therefore leads to better informed design decisions and support for the solutions contained in access statements. The DRC (2006b) acknowledges, however, that consultation can be time consuming and costly (hence, the requirement to budget for it).

There are issues of who, and how to consult with disabled end-users, including provision of feedback and the ‘language’ of communication. Built environment professionals need to use plain language, avoiding professional jargon and emphasising simplicity of expression (Luck 2003; Luck and McDonnell 2005). This could also include producing information in accessible formats, such as Braille and audio. The ability of disabled persons to participate in consultative meetings must also be considered; for example, a ‘breakfast meeting’ may be impossible for anyone dependent on the schedule of a paid carer to help them get up, wash and dress.

Consultation with representative disability organisations and disabled people is not an alternative to professional advice but is essential to demonstrate that actual rather than perceived needs have been addressed. While government policy seeks to empower disabled people in decision making (Prime Minister’s Strategy Unit 2004; Office of the Deputy Prime Minister (ODPM) 2003), including in the planning and built environment fields, consultation at the design phase will not involve full participation in decision making but is expected to go beyond tokenism.

Design and access statements should report how consultation with such parties informed the design. There is no shortage of advice on consultation (Sparks 2007; Planning Advisory Service (PAS) 2008) covering:

- who to consult – volunteer samples, representative disability organisations, local access groups, carers;
- methods of consultation – questionnaires, community forums and exhibitions, focus groups, e-consultation;
- conduct of consultation exercises – appropriate formats and venues.
Design and access statements are required to gain planning and building control approval (DCLG 2006; CABE 2006; PAS 2007; Cowan 2008). Putative access statements emerge from the access strategy at the start of the design phase and should be built upon as the design detail crystallises.

The strategic level access strategy should cover, according to the DRC (2004), the client’s philosophy and commitment to inclusive access. In the case of a large organisation this may be supported by:

- its corporate social responsibility policy;
- an overview of legislation and technical guidance relevant to the project;
- how accessibility will be addressed at both operational and ongoing management phases;
- how continuing duty under the 1995 DDA will be met.

A design and access statement is required as part of most full and outline planning applications. It is placed on the public register and sent to local authority consultees. The statement should take a holistic approach, since the experience of building users does not start and finish at the door. It should embrace both access to the development and access into and around the development, demonstrating understanding of the site context (such as topography and local transport links), plus evaluation of the opportunities, constraints or conflicts and how these will be addressed. It should also explain how the design ensures that all users have equal and convenient access to the building, external spaces and the public transport network by detailing how guidance was followed and explaining how any adverse impacts will be minimised.

The statement should therefore be developed alongside the design proposals in consultation with the local planning authority, statutory bodies and other consultees required by the planning process. Additionally, it should specify how the local community and access groups were involved and how this consultation informed the design process.

Access statements to secure building control approval focus mainly on internal and structural design control and require only limited formal consultation (such as with the fire service). They must demonstrate how the design satisfies the Building Regulations Part M (ODPM 2004) or explain deviations therefrom in terms of adoption of superior standards such as BS 8300 (BSI 2009) or resulting from consultations with disabled people.
MANAGING CONSTRUCTION AND OCCUPATION

Once the construction contract is let, then it might appear relatively straightforward to deliver inclusive access in accordance with the detailed design and specification. However, experience at the Vassall Centre has shown that at this stage diligent on-site management is crucially important otherwise the care that has gone into the planning and specification can be undermined or lost through insufficient care over implementation.

Some construction contracts allow the contractor an element of leeway in sourcing and substituting materials for a ‘reasonable’ alternative. In briefing the contractor it is therefore important to identify those key elements that have been specifically chosen to deliver inclusive access that the contractor might not otherwise recognise as special, such as floor finishes, door handles, window openings and light switches.

Diligent monitoring is also needed to ensure plans and specifications are followed accurately; for example, to make sure that dropped kerbs really are flush with adjoining surfaces (for wheelchair access) and that power sockets and light switches are placed at dado level rather than floor level, so they can be easily reached by all users.

If access features prove difficult to implement, or alternatives become available, the contractor should consult with the client’s project manager/architect before any amendments are made to the construction details.

Signing off practical completion of the building provides an opportunity to review and ‘audit’ the access arrangements as part of preparing the occupancy access statement. This statement should identify required management procedures to address any barriers that could not be designed out, policies for future maintenance, or improvements and maintenance priorities for essential features such as lifts and emergency alarms.

Where speculative projects need further work to accommodate occupiers, then issues such as internal partitioning, decoration, furniture choice and layout, and signage will all have a bearing on accessibility.

With larger organisations, ongoing management for access will usually be the responsibility of the facilities manager, to ensure on a daily basis that internal and external circulation areas and essential facilities (such as toilets) are clear and free from obstacles. Reviews of access functionality should be carried out in conjunction with any proposed alteration or refurbishment works, taking the opportunity to consider whether improvements are possible.

Finally, a building’s inclusive access provisions may be consistent with best practice but a disabled user’s satisfaction with their experience can also be influenced by the attitudes and behaviour of any staff they have contact with. Therefore access awareness and disability etiquette training for staff is an essential component of fully accessible environments, and especially important should emergency evacuation be required. In this context, it should be appreciated that the DDA requires slightly different approaches from employers vis-à-vis service providers, since employers dealing with particular disabled employees must provide a formal, personalised emergency egress plan.
WHERE TO FIND GUIDANCE

Developments in inclusive access have been accompanied by a proliferation of advice and guidance, available not only from government (for example, ODPM 2003) and industry sources (for example, Bone 1996) but also from disability organisations and service providers. Additionally, certification schemes are emerging, such as the UK Council for Access and Equality’s (UKCAE) workplace inclusion pathway, with a section for construction (UKCAE 2009).

The College of Estate Management, together with the Vassall Centre and the Ove Arup Foundation, has also produced an interactive tour of the Vassall Centre which is available free online (www.cem.ac.uk/ourresearch/inclusiveaccesstool/). This resource shows how the functionality of a building can promote inclusive access and looks at how buildings can be created or refurbished in ways that offer equal opportunities and independence.
CONCLUSION AND RECOMMENDATIONS

The built environment industry is responding positively to societal and government pressures to become more sustainable, more energy efficient, more inclusive and to provide better value for money invested, although theory and practice have yet to fully converge. There is heightened appreciation of ‘disability’, widening awareness of relevant legislation, and better understanding of particular buildings’ access problems, such as schools and listed buildings, but there remains a gap between what is done and what ought to be done (or still could be done) to improve accessibility.

To ensure that accessibility continues to improve throughout the built environment requires further action, analysis and evaluation of:

- The relationships between disability and the built environment to establish more clearly:
  - how the priorities and expectations of the highly diversified disabled population are changing;
  - how this knowledge is best integrated into the workings of project teams, that is, who in the team needs to know what and why.

- The outcomes of policy and planning, including the success or otherwise of involving the disabled viewpoint in the design and planning process.

- Actual practices and measures introduced to promote inclusive environments, including schemes such as shopmobility, leading to the development of ‘asset ratings’ for new buildings/spaces and ‘operational ratings’ in regular use.

- The training and dissemination implications of keeping abreast of disability, technology and support services for inclusive design.

Everyone, not just disabled people, benefits from inclusive environments but much remains to be achieved. The approach in the UK is based on amicable co-operation and negotiation to establish reasonable adjustments to improve access, rather than the prescriptive course of technical details and legal compliance adopted in the USA (Prideaux 2006). As such, it is up to the built environment industry to grasp the initiative.

Quality assurance will be a major issue. The industry must therefore establish the checks and how these should be made, to determine the extent of access improvements and the contribution that inclusive design makes to building sustainability, particularly the flexibility to adapt to future access innovations.

Ultimately, however, disabled persons’ satisfaction with their ‘accessible environment experience’ may depend upon other users respecting their rights and treating them as equals.
REFERENCES


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GAYE POTTINGER

Gaye Pottinger is a chartered valuation surveyor and was a deputy chief officer in local government before joining the College of Estate Management in 1994, where she is a Senior Research Officer. Her research covers many aspects of property investment and management, including projects in recent years on leasehold reform and the Right to Buy (both for government), residential valuation and investment, fair rents, inclusive access in the built environment, flood risk and property, sustainable house building (with BRE Trust), HIPs, Wi-Fi use in retail environments (with the BCSC) and professional ethics.
INCLUSIVE ACCESS TOOL

A FREE GUIDE TO INCLUSIVE ACCESS FOR SUSTAINABLE BUILDINGS

This interactive tool is the latest product to emerge from CEM’s involvement in inclusive access research, which has been on-going since 2004. Developed in conjunction with The Vassall Centre Trust, Bristol and funded by the Ove Arup Foundation, it is designed to provide practical guidance to creating and managing both working and community space that is accessible to all.

The tool incorporates 3D graphics which enable a building ‘fly through’, plus ‘hotspots’ in each room with additional information click-throughs and video clips which demonstrate key accessibility features. The guide is intended to show how a building can be made to truly work for people in ways that also satisfy accessibility legislation and regulations.
The virtual tour starts from the street outside the building, looking at ways to arrive via the bus stop, the controlled access for vehicles and the separate safe access for pedestrians.

Features are explained in terms of the particular disabilities that they are designed to accommodate, including impairments to mobility, hearing, sight and learning.

The tour shows examples of how elements of the building looked before and after the alterations, to demonstrate the difference made by introducing inclusive access. Technical drawings are used to illustrate best practice design and construction details.

Video clips demonstrate the particular way that certain features enable people with disabilities to use the building independently, for example opening and closing doors, accessing the conference dais and adjusting the height of the kitchen sink.

Advice is given about on-going building management and maintenance to ensure that accessibility is maintained day to day and when redecoration or refurbishment is needed.

The aim of the tour is to provide property designers, construction professionals and facilities managers a perspective on inclusive access from the user viewpoint, so that they are better equipped to deliver built facilities that are accessible to everyone.

To access this tool now, please visit: www.cem.ac.uk/ourresearch/inclusiveaccesstool/
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While we are an independent organisation, we have a close relationship with the University of Reading, strong links with a range of professional bodies and with major property firms. The College is increasingly global in outlook.

Drawing on our extensive knowledge base, professional contacts and independent standpoint, research is a core area of CEM’s activities, both to ensure the quality and relevance of our education programme and to offer a vital service to the property profession.