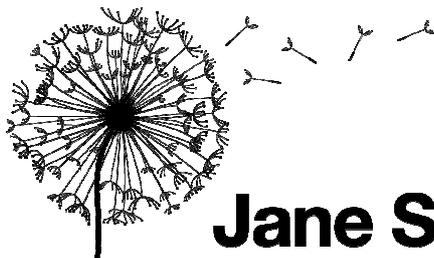


**Inclusion, access and schools**

**Inclusive school environments**



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## Introduction

It is a recognised imperative that the education of our children provides equality for all, no matter the child's gender, religion, racial ethnicity, physical or cognitive abilities. Any school building programme needs to provide schools suitable for decades to come. With investment, it is essential to ensure that schools are as inclusive as possible, enabling all, including those with profound disabilities whose physical requirements go beyond the minimum standard, have access to educational establishments equally.

Ensuring education for disabled pupils and access for disabled parents is essential; *Disabled people are around 3 times as likely not to hold any qualifications compared to non-disabled people, and around half as likely to hold a degree-level qualification.*<sup>1</sup>

There are many factors which determine the way in which a building, premises or environment is built, commissioned, altered and operated. If you are an education provider, service provider or an employer you will want to know how the legislation affects you and how you can best respond to ensure that your interests are met within affordable costs. If you are a designer, educator or contractor providing facilities both physical and operational, you will need to be sure that what you are providing will give the security to your client of a flexible building for the 21<sup>st</sup> Century. Furthermore, you will want to have confidence that any investment in this respect will produce results.

## Legislation

The legislation emanating from the EU, as well as, within the UK is one of equality. There is an expectation that new buildings will provide accessibility levels consummate with the anticipated users. Planned progressive improvements should relate to changes in circumstance and demographics. So what does this mean?

Schools and providers need to continually review their policies, practices and procedures and premises. In relation to physical aspects of premises, it is important for the building and surroundings, to foresee possible alterations which may be required during the life of the school and in changes to the schools population.

## Disability

People with a disability, include people with physical, sensory, or cognitive impairments and those with mental or other health issues. This could be a member of staff, a parent, pupil or a sportsman using school facilities. According to the *Disability facts and figure report*<sup>2</sup>, in 2014 there were over 11 million people with a limiting long term illness, impairment or disability. Six percent of children are disabled; this is not necessarily an SEN, which I will come onto shortly. Sixteen percent of all working age adults and 45% of adults over the pension age have a disability.

[1.](#) Source: Labour Force Survey, Quarter 2, 2012

[2.](#) Disability facts and figure 16<sup>th</sup> Jan 2014 DWP & ODI

However, given that the majority of disabled children are *born* with a disability, which is not the case of the majority of disabled people, many children will have profound and (or) multiple disabilities. There is also a rise in the numbers of children who have either emotional behavioural disorders, or come from the autistic or aspergers spectrum.

Reported in *September 2014 by the DfE*<sup>3</sup>, there were 17.9% of pupils in England who have an SEN and 2.8% of pupils in England who have a formal statement.

## **How can a school meet the duties for its premises?**

Within my scope as an Access Consultant, I consider factors that influence the built environment and the process to ensure reasonable inclusion. Initially, a risk assessment regarding liabilities in respect of service delivery, duties to employees and access to the curriculum relating to disabled people should be undertaken. This could be to the extent of identifying an individual child's need, as well as, other users of the school. This process should also identify any impending changes in legislation and regulation.

Furthermore, it is essential to define relevant legislation and current best practice guidance relating to your premises. Whilst there are no strict technical criteria against which the legislation can be judged, there are guidance documents to assist in this process.

It must be remembered that Building Regulations is a *minimum* requirement and does not necessarily meet the responsibilities of the legislation which is based upon individual needs; therefore, design criteria should reflect function. For example, criteria for classroom areas may vary from that of sports facilities. Sports areas should reflect Sport England or similar guidance documents. It must also be borne in mind that what would suit a child, may not be appropriate for an adult.

In relation to the EA and Building Regulations, the *Approved Document M Use of Guidance*, clearly states, in 3<sup>rd</sup> paragraph page 6 that *compliance with Part M of the Building Regulations does not necessarily equate to compliance with the obligations and duties set out in the EA*. In addition, Building Regulations ADM refers to other best practice guidance, such as the Sign Design Guide and Sport England documents. The provision must be appropriate for Building Regulations and *also* the duties of the client under discrimination legislation.

It is advisable to consult disabled staff, users and parents; they are the public face of schools and can often identify good and bad practice, helping ensure that reasonable measures are put in place.

Having confirmed the risks and established performance criteria, it is sensible to construct an appropriate audit/design model. This model should be employed when planning either refurbishment works or new build and will influence any briefing documents. It should then be used to monitor the design and construction of the school.

[3.](#) SFR 26/2014 Special Educational Needs in England January 2014, issued 4 September 2014

## The process

What is the process to an inclusive environment? It is not as complicated as one may think; the methodology that I use when approaching any building project, is:

- Risk and added value assessment
- Establishing the criteria
- Operations review
- Identify existing site conditions
- Design team consultation
- Agreeing detailed arrangements such as evacuation, operational policies and handover

Schools must identify the demographics of their potential pupils, parents, visitors and employees. Once this is established, identify the education, services and employment requirements. In effect, undertake a risk assessment (added value):

- Who does the school anticipate working at and using the school?
- How do you provide the education, service and employment; against the full demographics of users?

Once this is completed you need to set the design criteria to establish that your premises and design proposals meet expectations, or if not, ascertain the failings. Within the UK, we have a key number of documents which assist in inclusive design. For example, some best practice guidance documents available are, BS8300:2009 Design of buildings and their approaches to meet the needs of disabled people, Approved Document M, K & B, the Sign Design Guide, Accessible Sports Facilities, Inclusive Mobility and for schools there are the Building Bulletins, 102, 93 and the Standard specifications, layout and dimensions range.

When dealing with an existing building, an access audit may be appropriate; this would be to identify key barriers to inclusion using the sequential journey of all users. However, it may be appropriate for an audit to be completed later when a more defined design has been identified. If this is the case, then a very simple audit of major barriers to assist in the design process may be applicable.

The UK legislation requires reasonableness within the ability to pay. The obligations on public sector bodies are more onerous; however, the principle remains the same, is the service equal? If not, why not and is this reasonable within the constraints of site, economics and other factors, such as listed buildings?

The process for the design and construction professionals continues through briefing to handover. My advice is that at each stage the scheme is reviewed, any changes and their relevance to the design standards and anticipated users are identified. A stage closure report should be provided, which states the decisions made and those in abeyance, for future consideration.

Many professionals in the UK do not fully understand the equality legislation. This is compounded by the fact that the legislation is civil rather than building led. There is no technical guidance to follow; the building regulations are a minimum standard and as

described above, best practice guidance may need to be used to inform the design. The brief is key to inform the design team of any inclusive design considerations.

In addition, best practice guidance and statutory obligations are cyclic and have different responsibilities. There are often conflicts between guidance and other matters, such as planning; for example, light overspill versus acceptable light conditions for visually impaired people. Another consideration is the procurement process; who is the lead consultant, what is the decision process? In particular, design freeze or planning permission, which define the shape and room dimensions, are often undertaken early before detailed curriculum arrangements are agreed.

## **Refurbishment**

Access will be required to the curriculum, social activities, goods and services and employment in an equal manner. Within refurbished areas, it is vital to comprehend the function of those spaces and their relation to the rest of the school building and grounds. Whilst it may not be feasible to meet all good practice guidance within the existing building fabric, there will be clear requirements for upgrading to a standard ensuring that the school is inclusive. In this regard, it is essential that a pupil, visitor or member of staff is not discriminated against. This may be in terms of access, use of equipment, travel time between lessons and access to sanitary and changing facilities.

To fully identify the level of work required to meet responsibilities under the legislation, it is important to understand:

- any brief and school population
- third party use
- curriculum areas (general classrooms, unique facilities!)
- access to externals, for breaks and evacuation
- horizontal circulation
- vertical circulation routes
- electrical/mechanical positions/elements
- detailed understanding of items such as doors, toilets and those rooms with fixed equipment

Rationalisation of spaces may be necessary and providing unique facilities at an accessible level. The more accessible the school, the easier it is to timetable. If you have only one science room with the relevant equipment, can you timetable effectively? What is the cost of making more rooms accessible?

An assessment or audit of the buildings against agreed criteria should provide information to prioritise and budget on a rolling programme. It is essential that this programme is flexible and considers prospective pupils or those within the school. It should allow for continual improvements and recognition of changes to best practice guidance.

## **Key issues in school design**

As with any sector, there are key areas to be considered. The following topics outline those areas which may require more detailed interrogation before planning any works, writing a design brief, designing a school or commencing on site.

### **Infrastructure, approach and landscaping**

For pupils, access is required not only to the curriculum but all aspects of school life, including social activities, both in school time and also out of hours. What are the major issues facing landscape designers and architects when designing educational establishments and the clients and planners in assessing the schemes? It is from the macro to the micro, from infrastructure, through to the finest detail.

Given the fact that one of the most limiting and challenging factors is likely to be the existing physical environment and topography, the external spaces and integral infrastructure are one of the most important considerations. These are affected by a number of aspects, such as, the existing and required levels, gradients, roadways, approach and operational issues.

Schools are multi-functional places which utilise the whole of their site and will require access to all services and functions. The inclusion requirements will influence the position and siting of the building/s and should be considered early in the process, incorporating agreement on the principles of levels, locations and of key functions. This should take into account not only arrival, departure, parking and drop off points but also, access onto and across the site, to and between other buildings and functions, such as, sports pitches and play areas and exiting the buildings in an emergency situation. This exercise will need to be completed for all staff, pupils and third party users. Landscape architects are crucial to this process and early involvement is essential.

### **Arrival**

How disabled people arrive, whether driving, being driven, cycling or walking to school, they all need equal ease of entry. For example, vehicles should be kept separate from pedestrians; that includes cycles!!!. This means a kerb and sensible locations of dropped kerbs with tactile indicators.

Accessible parking and drop off points need to be provided within the site and should be as close as possible to the main entrance/s, if not, cover should be provided. Imagine, you have to get out of your car, unload the wheelchair and then manoeuvre towards the entrance, it is raining and you cannot hold the umbrella *and* move the wheelchair. Wherever possible, the accessible parking or drop off point should be accommodated within 10-20m of any entrance.

People now use a variety of vehicles; BS8300 provides guidance on the space required to park and exit some of these vehicles. Understanding how your pupils/visitors are likely to arrive, and in what numbers, can impact on the layout and space requirement at a school; you may need space for several cars, taxis and minibuses. If they cannot all park at the same time, is there space to queue without holding up all the traffic? Is it safe to exit from the side and rear of the vehicles?

## **Routes**

It is a misconception that, as long as a footpath is level (1:21) it can be any length. Imagine trying to wheel yourself, or ascend a height of two metres; it doesn't matter how shallow it is, you still have to climb it. Wherever possible, ensure that the main entrance is no more than 1.2m higher or lower than the pedestrian entry point. There are many sites which have changes in level which are well in excess of this; this then requires a risk assessment and an understanding of priorities; when and where to find management solutions or provide physical alterations.

Resting positions are required and even when the path is shallow you will need level platforms (1:60) in some places. These resting areas should be outside of the main pathway. Wherever possible, you should aim for a minimum of 1:25 slopes, this allows for minor constructional and levels errors on site and makes access easier for wheelchair users and ambulant disabled people alike.

## **Materials**

Surface materials should be flat and even, furthermore, major routes should be provided with materials having properties similar to tarmac or concrete paving; different functions should use different materials. For instance, bedded gravel within a wildlife habitat allows the experience of a rougher material and is likely to be appropriate in that location, however, is not suitable for a pathway to the main entrance.

Grilles and gulleys cause problems for many, including those using sticks as well as wheelchair users. They should not be in a dropped kerb location and also ensure that there is no ponding of water. There is also clear guidance on the widths of the openings and direction of lay within an access route.

## **Obstructions**

There are other obstructions such as lamp posts, litter bins, seats, etc. Wherever possible, these should be out of the main route and grouped together to reduce risk.

## **Lighting**

BS8300 and ADM require 100 lux to steps and ramps and 20 lux on accessible parking bays and the routes to entrances; however, this may cause problems of light overspill. Fittings may need to be lowered but unfortunately leaves them open to vandalism. Locating major routes and facilities, such as car parking away from boundaries may help. Deciding on the lighting is important and perhaps differing levels may be required. Isolated routes or those not used out of daylight hours could be serviced by solar powered fittings to aid safety.

## **Wayfinding**

Disabled people will benefit from using wayfinding mechanisms when approaching, entering and navigating across sites. This would give guidance on the most suitable route for their needs and should be supplied in such a way that is comprehensible to all disabled people. External environments can often be frightening and confusing, especially for first time visitors. Sight, touch and sound are three key sensors when considering wayfinding. There are a variety of mechanisms; audio information, the use of signage and symbols, tactile

maps and indicators, defined pathways, use of tonal contrast, colour coding and the use of landmarks.

It must also be recognised that some people may not understand the written word. Others, such as, pupils with emotional difficulties and those with learning disabilities may perceive their environment differently and clear simplified clues would aid access for everyone.

We must not forget play and break times; social interaction is essential for all pupils and intrinsic to learning. All pupils should be able to access play areas easily, quickly and by a similar route to their friends. This is true of sports facilities and access should be provided to all sports locations for both spectators and participants. The Paralympics are testament to the variety of sports which are undertaken by disabled people.

The benefits of inclusively designed landscapes are enormous. However, historically ensuring inclusion within our external environments has been largely ignored by all but a few. The external landscape can be hugely beneficial for disabled people. Suitably designed spaces allow them to utilise all of their senses, aiding their understanding and comprehension. This allows disabled people to participate fully and provides a safe, healthy and inviting environment for all to enjoy.

### **Internal arrangements**

People with disabilities will have a variety of needs and limitations; understanding these will allow designers to provide a coherent and usable school for all. One of the most limiting factors is horizontal and vertical circulation. This should be viewed as travel time rather than travel distance. Someone with ambulant disabilities may find long corridors daunting and time consuming. Whereas, a wheelchair user may be either in a motorised chair or be strong in the upper body and therefore vertical circulation would be problematic. Time and travel distances around schools will affect timetabling and changeover times. This will require a strategic analysis of the location of curriculum areas, appropriate sanitary facilities and the correct location, size and number of lifts.

Lifts should suit the anticipated numbers and needs of disabled people. The dimension 1100 x 1400mm is a minimum lift size and indeed Part M refers to a 2000 x 1400mm being a lift which will facilitate most types of wheelchair, scooters and buggies together with several other passengers. Lift sizes should therefore be chosen to suit the anticipated density of use of the building and needs of disabled people.

Lifts are essential for vertical circulation of wheelchair users. However, they are used by a much larger population, including people with visual impairments, those with ambulant disabilities, arthritis, or with limited stamina where stairs may be overly time consuming or problematic.

To be able to prove that the anticipated needs have been met a flow analysis should be completed for peak change-over times. This would require information on the school operating day and numbers of children and staff. Most people develop disabilities throughout their lives and standards such as Part M reflect their needs. However, children are in the main, born with disabilities and as a result often have multiple and profound

disabilities. This often requires large and cumbersome equipment that cannot be accommodated within the minimum standard lift outlined in Part M. For instance, a pupil with Muscular Dystrophy is likely to progress to a horizontal chair which could be as long as 1800mm.

Additionally, one 1100 x 1400mm lift may not be able to deal with numbers encountered during the peak time periods which may result in delays for children reaching their class and thus discriminating against them. Moreover, in the event of failure it may render the school inaccessible and therefore be discriminatory.

To ensure an accessible school for children with severe physical disabilities, careful consideration should be given to the size and numbers of lifts provided, curriculum locations and evacuation strategies, at the outset. How many and what size lifts are required? Too few, too small or badly located lifts could result in discrimination.

- If a lift breaks down, can the curriculum still be accessed?
- Can they cope with the numbers encountered during the peak time periods?
- Are they located to reduce travel distances?
- What size is the largest wheelchair anticipated?

### **Sanitary facilities**

Access to toilets is one area which cannot be *managed away*. Providing the appropriate size and type of facility is essential. Some younger children will not be able to use a standard accessible toilet; schools must provide facilities to suit the age range of pupils. Staff and younger pupils cannot share toilets, this will mean duplicate facilities.

For pupils, what is needed is a variety of facilities to suit as many as possible. Many disabled pupils/people are not wheelchair users and may need to quickly access standard provision without the embarrassment of having to use *disabled* facilities. Independent and assisted provision should be provided. When you are considering pupil requirements, the school should consider the whole of their day, including any special equipment, hygiene, physiotherapy or medical needs.

The level and type of sanitary facilities need to consider travel distances, age of pupils, numbers and the make up of school population. For example, a pupil could use a large chair with a turning circle of 1800mm and may require assistance with a hoist; do they need a changing places facility? BS8300 recommends a space of at least 3.5m x 3m.

Change facilities need to be accessible for staff, pupils and third party use. This requires accessible, unisex and standard facilities.

- How does security work, can the facilities be used by the school and third party users simultaneously?
- Can changing facilities, for example, cope with two teams of wheelchair basketball players? Sport England guidance gives levels of accessibility against the size of facility.
- Are the change facilities located to easily access external pitches in out of hours use?

## **Curriculum areas**

A variety of rooms need to be accessible for a number of users, this includes the full spectrum of disability. There should be access to the curriculum allowing pupils to work alongside one another. This may include accessible fixed equipment, not just sinks and adjustable work stations, but hobs, ovens, science benches, etc. Classrooms may also need to accommodate support staff and extra space for auxiliary aids.

## **Communication systems**

People can communicate in many different ways and recognise information at a variety of levels. Those with sensory impairments and learning difficulties may need different facilities. People with hearing impairments use, lip reading, hearing aids, sound enhancement and sign language, or a combination. Having good acoustics and lighting are the most important elements to communication.

Sound enhancement systems come in a variety of types; loop, infra red and sound field: development is continual. Each system has its own advantage in terms of technology and usage; for instance, pupil users versus third party. Pager systems, such as deaf alerter will become more common place allowing hearing impaired people to receive information about fire alarms, messages, etc.

Signage and wayfinding should be considered throughout a site and needs to follow accepted good practice, such as the Sign Design Guide. For example, one contractor decided that to save money they would provide embossed wall mounted signs to the most important locations (in their opinion), but not all the other signs. This resulted in a mixture of signs which were ineffective and unusable, apart from looking appalling.

## **Evacuation**

It is mandatory to manage the evacuation of disabled people. The fire evacuation strategy should provide personal evacuation plans for all staff and pupils and a separate evacuation plan for visitors. Evacuation measures should consider all disabilities including those with visual, hearing and physical impairments and those with learning disabilities or mental health issues.

There is a push for large open flexible spaces which often removes any fire zones within a school. Generally, the safest option is to horizontally evacuate disabled people away from danger, providing appropriate refuges and communication systems. Without the fire zones this is not possible.

There is always the possibility of a need to evacuate vertically. The fire evacuation strategy should provide for *all* individuals to be evacuated. I have highlighted some of the considerations below:

- Refuges - numbers should reflect number of users and fire zones.
- Stair widths - should facilitate carry down; SSL recommends 1600mm width, research suggests 1500mm for a three person and 1700mm for a four person carry down. Dog leg

landings should be large enough for mechanical carry down equipment (minimum 1600mm deep).

- Fire zones - provide increased safety of disabled people without risky vertical evacuation. It also allows for a higher number of individuals to be kept safe for longer. Zones should be planned so that lifts can be used for evacuation. Try to plan the fire zones away from security doors.
- Use of lifts – recent guidance in the UK suggests risk assessments should be completed to enable the use of standard lifts for evacuation. Power supply routes and a zoned detection system would assist in this.
- Flashing beacons – should be provided wherever someone could be in relative isolation, toilets, stores and possibly offices. They are also needed in noisy environments.
- Double knock systems – can be used where there are pupils with autism, BESD, to prevent false alarms.

### **Third party users**

Those operating these services need to ensure that all reasonable measures have been included. This will be reflected not just in the physical premises but also in the management systems and operational policies.

### **Summary**

Given increasing expectations and the importance in providing inclusive education, it is essential that all schools review, not only policies, practices and procedures but also their premises on a regular basis.

When work is required, care should be taken in the briefing and tendering process. The process should identify the standards expected; there should also be clear guidance from the client to the design team regarding the school building's functions. Furthermore, inclusion should form an integral part of the design process from the building's inception to its operational policies.