

# SCHOOL MODERNISATION

GUIDANCE FOR  
SECONDARY SCHOOLS

FIT FOR PURPOSE



**FLINTSHIRE COUNTY COUNCIL**

January 2009

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# 1 BACKGROUND

## 1.1 Government Guidance 2006

In October 2006 the Welsh Assembly Government issued a publication *The Learning Country: Vision in to Action* in which it requested that Local Authorities develop plans for capital investment in schools to take into account projected pupil numbers and the need to invest in school buildings. The planning aim is to deliver high quality education in environments that provide essential standards of accommodation and facilities which are appropriate for teaching and learning, now and into the future, and which can also provide appropriate facilities for community use.

Achieving this level of provision was described as being “Fit for Purpose”.

## 1.2 School Modernisation: The Flintshire Context

In Flintshire there are a number of important factors that are central to the aim of modernising and organising schools. It is vital that our focus on Educational Standards is matched by provision of learning environments that are indeed ‘Fit for Purpose’. It is important that we encourage and allow creative use of space to respond to the changing curriculum and pedagogy in our schools. It is also important that developments include and involve the wider community in the life and work of schools.

We must ensure that there are sufficient places for every child, and that the condition and quality of facilities and accommodation meets essential standards and where possible, introduces new modern learning spaces for learners and staff in schools.

Action should be taken to manage the supply of school places. The maintenance of unused school places must not prevent the investment in securing improvement of learning environments, including meeting the Health, Safety, Safeguarding, and well being needs of the young people and staff in our care.

“Fit for Purpose” standards should help to inform the specifications for new schools and refurbishment work in Flintshire. Deployment of a range of Capital resources from the Welsh Assembly Government, the County Council, individual schools, communities and other bodies will be necessary to deliver a programme of improvements over the next decade against the standards.

This Guidance has been developed by Flintshire County Council, in consultation with schools and the Welsh Assembly Government, to help guide our capital investment decision making so that we do bring about the best improvements to school accommodation and facilities that we can.

## 1.3 Fit for Purpose: Towards a Definition

Flintshire has undertaken to produce a detailed Guidance Document, by Flintshire, for Flintshire, developed in partnership with schools, Council Officers and Members, and the Welsh Assembly, to set out a workable description of essential standards to be met and criteria to be used in applying the concept of schools ‘Fit for Purpose’ in practice.

## 1.4 Purpose of this Guidance

This guidance document represents Flintshire's approach to setting out essential standards for the development and improvement of accommodation and facilities in schools that need to be met through capital investment programmes and school improvement action plans in schools in Flintshire. In simple terms this guidance provides a 'minimum or essential standards checklist' to be used in conjunction with the measurement of the condition, suitability and sufficiency of accommodation and facilities of schools, and against which priorities for capital investment and asset management can be assessed.

## 1.5 Scope and Applicability of this Guidance

This document is designed to provide guidance for future capital investment into Flintshire Secondary sector schools. The scope of the guidance is for the existing 12 secondary sector schools comprising:

- 1 x 11-18 VA School (English Medium)
- 1 x 11-18 Welsh Medium School
- 1 x 11-16 English Medium School
- 9 x 11-18 English Medium Schools

NB. This guidance can also be used to contribute to the essential standards for Ysgol Maes Hyfryd – New Secondary Phase Special School to be opened in September 2009, although further specialist accommodation, facilities and equipment standards will need to be met as required for a special school.

## 1.6 Capacity Levels

The capacity of a school is the number of pupils it can accommodate. LEAs are responsible for assessing the capacities and admission numbers of all the schools they maintain, including voluntary aided and foundation schools and are required to inform the Welsh Assembly Government of newly calculated capacities and admission numbers of schools in their area and of any future changes to them.

Flintshire County Council currently has secondary school pupil capacities which vary between 565 and 1,768 pupil places. This Fit for Purpose Guidance has been designed to apply to the full range of secondary school sizes currently in operation.

However, it is possible for Local Authorities to consider introducing minimum and maximum capacity sizes for their Secondary Schools to help regulate the distribution of school places and the level of surplus places, which is a requirement of the Welsh Assembly Government, as part of the School Place Planning in Flintshire.

### **Flintshire Proposal for Consultation: Future Minimum and Maximum Secondary School Capacity Levels**

It is recommended that future consultation is undertaken with all appropriate stakeholders, on the advantages and benefits of the use of Minimum and Maximum School Capacity Levels to assist School Place Planning in Flintshire.

## 1.7 Staff Numbers (Teaching and learning support)

The Welsh Assembly Government specifies the following ratios in relation to minimum levels of staffing for the provision of care and teaching across the primary and secondary pupil age range:

<b>Age Range</b>	<b>Staff Ratio</b>
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<b><u>Primary</u></b>	
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3-5 year olds	1:8
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5-7 year olds	1:15
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<b><u>Secondary</u></b>	
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<b>7+</b>	<b>1:24</b>
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In addition, all schools must have a Headteacher.

Proportionate to the size of the school, staffing in secondary schools also involves the use of the following roles:

- a. Secretary and administration support staff
- b. Peripatetic staff
- c. Classroom assistants and Nursery Nurses
- d. Technical Support Staff
- e. Non-teaching ancillary staff including:
  - Cleaning
  - Caretaking
  - Mid day supervisors and Senior Mid day supervisors
  - Catering

For Secondary Schools, there is a statutory duty for managers in schools to ensure that all teachers have 10% of their time (per week) dedicated to non-contact time for Planning Preparation and Assessment (PPA) activities. The legislation does not state where this should take place.



## **1.8 Use of Mobile Classrooms**

Mobile classrooms will be removed from school premises as a priority where these are being utilised for long-term shortage of capacity.

Mobile units will only be utilised to provide short-term capacity, or in instances where classrooms are unavailable (periods of refurbishment etc).

## **1.9 Safeguarding Children / Child Protection**

Schools should have appropriate signage, security warnings, trespass warnings and direction to main entrance. Car park control signage is required as part of a controlled entrance to the school and separate vehicle and pedestrian entrances to enjoy segregated safe access for pupils and community users. Provision for cycles will vary from site to site but is encouraged and provision should be made where required.

## **1.10 Access and Security**

Security lighting and CCTV are strongly recommended. However, whether this element of investment is deemed to be essential will vary from school to school.

In future, attention should be paid in design briefs to designing out poor visibility and blind spots around schools which make safeguarding children more difficult.

All secondary schools in Flintshire should seek to accommodate multi-lingualism, as appropriate. It is essential that secondary schools accommodate bi lingual (Welsh and English) site communications.

## **1.11 DDA Compliance**

Historically, educational buildings within the County Council have undergone alterations to comply with the Disabilities Discrimination Act (DDA) 1995 on a need by need basis for those pupils with a disability transferring between schools.

It is the aim of the Council to ensure that all schools within Flintshire are DDA compliant as a basic necessity by 2016, through a rolling programme of capital investment.

## **1.12 Accommodation for Religious Diversity**

Schools should have appropriate arrangements, hall or other suitable space and facilities, including water for washing, to accommodate opportunities for worship across a range of religions.

## **1.13 Sustainability**

Flintshire along with all other Welsh Authorities has signed the Welsh Declaration on Climate change and committed to reducing its emissions by a minimum of 3% per annum. This will be superseded by a commitment by Flintshire County Council to achieve a 60% reduction in carbon emissions over the next 12 years, to its entire portfolio of buildings.

It is essential that funding allocated to Flintshire schools is used effectively and appropriately by designing and installing long term sustainable energy systems. An

additional benefit of this approach will be to make our schools more comfortable and improve the educational environment for our children by making them fit for purpose.

In future, greater emphasis should therefore be placed on energy use, and a more holistic approach taken when refurbishing our schools, for example, to insulate walls and roofs, replace windows before installing new boilers, and operate a building management system so that boilers can be accurately sized to match the heating requirements of the school.

Where lighting is in need of modernization, installation of modern high frequency fittings with occupancy/daylight controls should be considered.

Installation of renewable energy systems should be considered where feasible. Usage of water run off systems to recycle water may also be considered.

Each school will vary in the assessment of its needs, but every effort should be made to reach an essential standard of sustainability.

### **1.14 Community Use**

Modernised schools of the future will be required to further develop and enhance their role within the community. As well as providing increased access for the community for sports and other educational facilities and resources, the school will wish to consider a range of other services and activities to improve the learning and well being of the pupils, their families and for the wider community.

The accommodation needs of each school to facilitate community provision will vary. However, consideration should be given to location and access for efficient management and maintaining site security e.g. zoning of heating and zoned access and control of facilities.

Storage of community resources will also need to be considered. Where schools are used as polling stations, separate consideration will need to be given to this in the design brief.

The use of the school by the community should be encouraged. However, consideration should be given to the planning and design of spaces for community use, and to their location and access, to allow efficient management and maintenance of site occupancy and security.

## **2 The School Building**

The net area of buildings in secondary schools is comprised of five categories of space. These are listed below with any supplementary areas.

- Teaching areas/spaces
- Halls
- Learning Resource areas
- Staff and Administration
- Storage
- Dining and Social



## 2.1 Learning Spaces/Classroom Teaching Areas

The usage of Learning Spaces/Classroom Teaching Areas is now accepted to be normally a multi-functional approach rather than bespoke, with teaching spaces/classroom teaching areas being utilised equally well to teach subjects such as English, Welsh, Maths, History, Geography and Religious Education. With respect to these areas there should be a minimum of 3 for every 150 pupil places in a secondary school. These rooms/ areas should have the advantage of natural light and windows (where practicable) and be located around the internal periphery of the building. Internal rooms without windows are more suited to Drama, Music and curricular activities which can be conducted using artificial light.

Increasingly, 21<sup>st</sup> century teaching and learning styles require a degree of flexibility in the way a room is fitted out. Furniture should be light weight to enable them to be rearranged and flexible enough to move into rows, islands or other configurations. Floor coverings should be hard wearing, noise absorbent and be weather resistant ideally heavy duty carpet should be used.

Where classrooms are adjacent to windows, the windows will have blinds fitted to provide reasonable environment for image / film projection.

Desks that are isosceles trapezium in shape enable flexible usage. There should be sufficient desks / chairs to accommodate class sizes of up to 30 pupils. Consideration should be given where these rooms are above areas where movement is less and noise levels lower. Wherever possible, rooms utilised exclusively for teaching of these subjects should be clustered together, and where possible a separate office provided for the departmental management staff providing 10m<sup>2</sup> of office space.

To allow for flexibility in teaching spaces the accepted general rule is to plan for a maximum class size of 30 for all room spaces with the exception of Design and Technology. 20 pupil places should form the basis of Design and Technology accommodation arrangements. This is similar to the ratio suggested for sixth form spaces.

**Table 2 – General Teaching Space Room Size Classification Guidance**

	<b>General Teaching Space</b> > Greater than < Less than	
	Room size > 55.8m <sup>2</sup> < 76.5m <sup>2</sup>	Above optimum size, consider alternative use or removal of excess space (storage)
2	Room size 18.6m <sup>2</sup> - 55.8m <sup>2</sup>	Optimum size for single teaching group, or two small teaching groups
3	Room size <18.6m <sup>2</sup>	Unsuitable, consider enlargement or alternative Use

Rooms above 30 pupil places in size will normally present an overcapacity within the school depending on the number of these spaces within the school. It is recommended that no more than 25% equivalence of these spaces should be included in a secondary school. The optimum room size is identified as that suitable for class sizes up to 30 pupils. It is recommended that 75% of these rooms should be able to accommodate up to 30 pupils.

Rooms below a recommended minimum size should be considered as being unsuitable to be used as class teaching spaces. Consideration should be given to adapting these spaces for alternative uses to address other shortfalls in provision.

- 1.1.1 In order to ensure that any secondary school has an appropriate balance of classroom sizes it is recommended that the following guidance will apply:

Above Optimum	Max 25%
Optimum	Min 75%
Below 18.6m <sup>2</sup>	0%

- 1.1.2 Where schools have an excess of above optimum size classrooms the Council's Education Asset Management Team should assess any potential opportunities to re-organise the space to utilise the accommodation to address a shortfall in provision e.g. storage.

- 1.1.3 Schools with a large number of small classrooms should be assessed to determine whether rooms can be enlarged without compromising the space in adjacent rooms.

## 2.2 Specialist Practical Spaces/Areas

### 2.2.1 Modern Languages

A dedicated room for recording for KS3 oral moderation and GCSE oral examinations should be accommodated. Each secondary school should have access to a digital visualiser, as a shared resource

As a minimum, the rooms should be equipped with the following infrastructure:

- ceiling mounted projector
- Fixed DVD player in order to view recorded MFL programmes / films
- In addition, there should be two smaller whiteboards, one either side of the IWB for process work.
- A digital voice recorder for every 2 pupils
- PC with DVD-Rom and speakers with data projector

### 2.2.2 Mathematics

Ideally a suite of classrooms would be utilised exclusively for the teaching of Mathematics.

Consideration should be given to the need for department management office space and equipment. Where office facilities are not provided, but where pupil numbers and capacity allow, suitable office space should be created for management and administration staff.

Teaching and learning approaches may require pupils to move around, including moving furniture during lessons. Consideration should be given to location of spaces and movable furniture in the context of the curriculum in practice. There should be adequate space to allow movement of furniture so that the room is usable in a number of ways, and that there is more than conventional use of tables.

As a minimum, rooms should be equipped with the following infrastructure:

- ceiling mounted projector
- interactive whiteboard (IWB)

Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.

### 2.2.3 History

Ideally a suite of classrooms would be utilised exclusively for the teaching of History.

Consideration should be given to the need for department management office space and equipment. Where office facilities are not provided, but where pupil numbers and capacity allow, suitable office space should be created for management and administration staff.

Teaching and learning approaches may require pupils to move around, including moving furniture during lessons. Consideration should be given to location of spaces and movable furniture in the context of the curriculum in practice. There should be adequate space to allow movement of furniture so that the room is usable in a number of ways, and that there is more than conventional use of tables.

As a minimum, rooms should be equipped with the following infrastructure:

- ceiling mounted projector
- interactive whiteboard (IWB)

Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.

### 2.2.4 Geography

Ideally a suite of classrooms would be utilised exclusively for the teaching of Geography.

Consideration should be given to the need for department management office space and equipment. Where office facilities are not provided, but where pupil numbers and capacity allow, suitable office space should be created for management and administration staff.

Teaching and learning approaches may require pupils to move around, including moving furniture during lessons. Consideration should be given to location of spaces and movable furniture in the context of the curriculum in practice. There should be adequate space to allow movement of furniture so that the room is usable in a number of ways, and that there is more than conventional use of tables.

As a minimum, rooms should be equipped with the following infrastructure:

- ceiling mounted projector
- interactive whiteboard (IWB)

Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.

#### 2.2.5 Religious Education (RE)

Ideally a suite of classrooms would be utilised exclusively for the teaching of Religious Education.

A space for the display of religious artefacts, and an area to explore them would be useful.

#### 2.2.6 Consideration should be given to the need for department management office space and equipment. Where office facilities are not provided, but where pupil numbers and capacity allow, suitable office space should be created for management and administration staff.

Teaching and learning approaches may require pupils to move around, including moving furniture during lessons. Consideration should be given to location of spaces and movable furniture in the context of the curriculum in practice. There should be adequate space to allow movement of furniture so that the room is usable in a number of ways, and that there is more than conventional use of tables.

As a minimum, rooms should be equipped with the following infrastructure:

- ceiling mounted projector
- interactive whiteboard (IWB)

Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.

### 2.3 Practical Areas

Practical areas fall into two distinct types:

- a. Light practical areas with water, drainage and often gas services and resistant finishes.
- b. Heavy practical with fixed machines (lathes, cookers) and very resistant finishes, 3 phase supplies and commonly specialist extraction. These rooms need to be at least 8m wide to accommodate the configuration of furniture and equipment.

Practical based subjects include Science, Design & Technology, Art, and some vocational courses require a range of specialist teaching spaces. Ideally these should be arranged in clusters to take advantage of sharing storage areas.

DfES guidelines (BB98) recommend that there should be at least 1 Science Laboratory for every 150 pupil places and at least 1 Design & Technology room or Art room for every 150 pupil places.

Therefore, a secondary school of 600 pupils should comprise a minimum of 4 Science Laboratories and 4 Design & Technology or Art Rooms.

## **2.4 Science Areas**

- 2.4.1 It is recommended that all laboratories are general purpose, i.e. not specifically biology, chemistry, physics, although a few will have specialist facilities (e.g. blackout blinds).

- 2.4.2 Calculations for the size of each laboratory shall be based upon 2.83m<sup>2</sup> per pupil (ideally 3.0m<sup>2</sup> per pupil).
- 2.4.3 Floors should be level, with no steps and if possible no ramps. Floors shall be covered with non-slip vinyl tiles/sheet. Carpeting is not appropriate hard wearing or otherwise in these areas.
- 2.4.4 Access to the school computer network shall be provided in all laboratories, and preparation rooms and in the science department office.
- 2.4.5 There shall be good ventilation, with at least 6 air changes per hour in teaching laboratories and preparation rooms.
- 2.4.6 It should be possible to reach the opening mechanism for windows easily, without having to climb.
- 2.4.7 Each laboratory and preparation room should have two exits, located as far away from each other as practicable. Only one of these need open into a circulation space.
- 2.4.8 A good general level of illuminance is required, around 300 lux. In addition, where close or detailed work is carried out, e.g. in the preparation room, task lighting should be provided.
- 2.4.9 Where benches are utilized each pupil should have knee space and whilst a limited number of pupils may sit sideways to the teacher, it is preferable that no pupil(s) have their backs to the teacher.
- 2.4.10 Circulation spaces should allow distances between furniture in accordance with BS 3202 (part 3) or Science Accommodation in Secondary Schools (DfEE). There shall be sufficient space for parking an equipment trolley.
- 2.4.11 Full blackout is required at a ratio of one in five of the laboratories. Other laboratories require dim out only. This should be provided by roller blinds or slatted blinds, running in slots. Blinds must be non-flammable and should not interfere with ventilation arrangements.
- 2.4.12 All the laboratories should be on the same floor, serviced by a central preparation room and store. [If laboratories are not on the ground floor, then a service lift (hoist) shall be provided. Laboratories should be clustered and a separate office provided for the departmental head of subject.
- 2.4.13 Furniture shall comprise fixed benches around the walls, with sufficient tables/service pedestals/octagonal units, all at a height of 850 mm. Where pedestals/tables are used, distances between pedestals should be an exact multiple of the dimensions of the table, so that long runs can be created. Bench tops shall be made of formaldehyde based laminates not bonded to an MDF or similar base, thickness of at least 16mm, with a drip groove. In addition, there shall be one adjustable height, fully serviced table (for use by disabled pupils).

There should be sufficient cupboards (fitted with drawers/shelves/tray racks) under fixed benches, with the cupboards mounted on plinths. There shall be sufficient wall-mounted, lockable, glass-fronted cupboards. There shall be some wall-mounted, lockable cupboards with wooden doors and some book shelves. Except for sliding doors, cupboard doors shall be fitted with 270° hinges



- 2.4.14 Ducted fume cupboards shall be provided in preparation rooms and should also be provided in at least 1 in 3 of the laboratories. Fume cupboards located in laboratories should be glazed all round and should not be located in corners, nor near doors where drafts might upset air flow. Desirably if there is a 6th Form at least one laboratory should have more than one fume cupboard. The fume cupboard provided in the preparation room shall have a corrosion-resistant, ventilated cupboard beneath it, for the storage of fuming or volatile chemicals.

The following science area infrastructure is recommended as essential:

- A double gas tap for every two pupils
- A double electrical socket for every two pupils. (Sockets should be positioned to minimise risk of penetration by water).
- One sink (size at least 300 x 200 x 150 mm) for every 6 pupils.
- Ceiling mounted projector
- Interactive whiteboard (IWB)
- Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.
- Each laboratory shall have a teacher's area, equipped with gas, water and electricity services.

- 2.4.15 Service pipes, conduits and sink traps are to be protected by cupboards or false fronts, but ready access to sink traps is essential.

## 2.5 Gas Supply to Sciences Areas

There should be a solenoid valve for the gas supply close to the point where it enters each laboratory, with the push button adjacent to the teacher's area, but not so close to the door used by pupils that they can misuse it easily. Gas taps shall be of the drop-lever type and shall be mounted such that they are easily visible by the teacher. Anti-rotation devices (e.g. Liverpool plates) shall be fitted. For ease of maintenance, each bench should have an isolating control.

Additional double gas taps and double electrical sockets shall be provided on all peripheral benches, at intervals of approximately 2 metres. They should be located near sinks to allow distillation and reflux experiments to take place. Gas taps should not be located under shelves, cupboards, display boards, etc., where use of Bunsen burners might present a fire risk.

## 2.6 Electrical Sockets

Electrical supplies to each laboratory shall be protected by an earth-leakage circuit breaker, designed to trip at 30 mA in 30 ms. The cut-off for each laboratory shall be adjacent to the teacher's area, but not so close to the door used by pupils that they can misuse it easily.

Power to any fume cupboards shall be on a separate circuit as shall, in addition, two suitably marked double sockets (for use with aquaria, computers or by cleaners).

## 2.7 Water Supply

Water taps should be about 600 mm above the base of the sink (300 mm above bench level) and should be of a non-rotatable, epoxy-coated, pillar design. Anti-rotation devices shall be fitted. Detachable nozzles should be avoided. In rooms used for mainly chemistry and at the teacher's demonstration bench in all rooms, double outlet taps shall be supplied; elsewhere single outlet taps are adequate. In a double tap, one outlet should be rified and the other an anti-splash design; in a single outlet tap, the outlet should be rified.

Taps should be fitted sufficiently close to the sink for water to go easily into the sink. For ease of maintenance and to allow water pressure to be adjusted, each bench should have an isolating control.

Sinks shall be made of cast epoxy/fire clay. Drain pipes shall be made of pvc/vulcathene; each sink shall be fitted with an anti-siphon bottle trap, in a position protected from interference by pupils but readily accessible for cleaning purposes.

There shall be an adequate number of access points for rodding.

It is recommended that telephones are available in both the preparation room and in the science department office.

## 2.8 Preparation and Storage Areas

- 2.8.1 Where possible preparation and storage will be shared between adjacent laboratories, in order to make the most efficient use of specialist areas. The total area of preparation rooms (including storage) shall be based upon the following formula:-

$$\text{Laboratory Size(s) (M}^2\text{)} / 2.83 \times 0.5 = \text{Preparation room size}$$

For Example: A preparation room to service a laboratory of 88m<sup>2</sup> would be calculated as follows:

$$88\text{m}^2 / 2.83 \times 0.5 = 15.5\text{m}^2$$

This will be apportioned as follows:

25 – 30%	work areas
20 – 30%	fixed storage (including the chemical store)
10%	mobile (trolley) storage
Balance	circulation space

- 2.8.2 The chemical store room should be lockable and, if practicable, open directly off the preparation room; other store rooms should at least be adjacent. Storing of the majority of chemicals in the preparation room should be avoided.

Facilities shall include: a fume cupboard, washing-up area with hot water (including plumbed-in, domestic-type dishwasher) and large sink (size at least 600mm<sup>3</sup>) made of cast epoxy resin, office work area (with telephone, computer, book shelves, filing cabinet, place for personal effects), practical work area (adjacent to sink with water purifier [still/de-ioniser/reverse osmosis unit], refrigerator, freezer [or combined fridge/freezer], gas and electricity services), storage for trays of completed and/or returned preparations (could be on benches or on racking), space for parking at least 1 trolley per laboratory + 1, storage space for items for immediate use (eg, tools);

long-term storage space (depending on the provision of separate store rooms).

Some, or all of the bench surface in the preparation area may need to be impervious, if microbiological work is to be carried out there.

The chemical store shall be ventilated by air bricks in high and low positions on an external wall, or, where this is not practicable, an extraction system fitted using an acid-resistant fan and operating on a time switch which can be over-ridden.

If the chemical store is to be used for dispensing highly flammable liquids, switches should be outside the store room. The chemical store shall contain 1 highly flammable liquids cupboard (capacity 50 litres), sufficient lockable wooden cupboards (for extra security), shelves covering the remaining space.

- 2.8.3 For an 11-18 school, approximately 44 m<sup>3</sup> of chemical storage shall be provided (including any in cupboards or in the preparation room); 26 m<sup>3</sup> is adequate for a school without a sixth form.

Shelving shall be of adjustable height, mostly about 150 mm deep, but the bottom two rows shall be about 200 mm deep. Along one wall there shall be a plinth to store large bottles and a bund or sill to contain spills from them.

The main storage shall consist of a mixture of tray racks (compatible with the trolleys to be used), shelves and cupboards.

## 2.9 Design and Technology

- 2.9.1 The minimum number of specialist teaching spaces is determined by the number of curricular activities. These are typically:

- Food Technology
- Textiles Room,
- Workshop/Studio,
- Pneumatics, Electronics, and Control Technology and
- Computer-Aided Design and Computer-Aided Manufacture

- 2.9.2 Additional teaching spaces would need to be added for larger schools up to a maximum of 10 teaching spaces. This would need to be determined by curricular need including vocational courses. Typically this could include a second Food Technology room, a second CAD/CAM room and additional specialist Workshop/Studios. There is a requirement to meet all the requirements for DDA including specialist rise and fall benching in all areas and sufficient wheelchair access to all areas.

- 2.9.3 Calculations for the size of each Design & Technology suite shall be determined by risk category. The sizes provided are based upon a maximum class size of 20 and are **minimum** requirements

- 2.9.4 Design & Technology rooms should be located on the ground floor with good access to service roads to enable direct bulk deliveries. Services will include Mains Gas and Mains Water both hot and cold and compressed air. In addition electrical supplies will include three phase and single phase supplies as well as low voltage for electronics. Both Gas and Electrics would need isolation and emergency control features included. Extraction for both fumes and dust will need to comply with the appropriate COSHH regulations. In addition adequate heating, ventilation and natural and artificial light to appropriate regulations will be required.

- 2.9.5 Network cabling and points throughout with data projectors and interactive whiteboards.

Design and Technology uses sophisticated, Industry standard software which generate large files so dedicated servers would need to be supplied.

- 2.9.6 Each teaching space will need storage for pupil's ongoing practical projects. The guidance suggests 0.5m<sup>2</sup> per pupil. There is also the need for a staff base/resource area that should be central to the overall facilities.

For the Workshop/Studios an additional material storage and preparation area of 54 square metres is essential. This would accommodate specialist, high risk machinery that pupils need to be denied access to. This area could be reduced to 35 square metres if material storage was located elsewhere but this would not be the ideal.

- 2.9.7 There is also a need for a food preparation and storage area but this would not need to be as large. It would need to accommodate fridges and freezers as well as worktops for food preparation.

- 2.9.8 Low Risk Practical Activities (textiles etc) - 4.25m<sup>2</sup> per pupil (4m<sup>2</sup> per pupil working space plus 0.25m<sup>2</sup> for equipment)

High Risk practical activities (workshop/studio, food technology) – 6m<sup>2</sup> per pupil (4m<sup>2</sup> per pupil working space plus 2m<sup>2</sup> for equipment)

If a heat treatment area is to be included then a further 0.75m<sup>2</sup> per pupil is required.

## 2.10 Workshop and Studio Teaching Spaces

It is essential that workshop and studio teaching spaces should be equipped with the following infrastructure:

- gas with isolation,
- hot and cold water.
- Electricity at single and three phase, low voltage and an emergency stop system.
- Network points,
- data projector
- inter-active whiteboards are essential.
- Fume and dust extraction, the latter to be located externally.
- Adequate ventilation,
- natural and artificial light needs to be provided.
- Durable non-slip flooring is needed.
- Coat hooks for aprons and bag/coat storage is needed close to the entrance, An alternative fire escape is also needed.
- There is a need for the provision of heavy duty workbenches with 20 stations and the ability to work wood, metal and plastics.
- A range of floor mounted, pedestal mounted and side bench mounted machinery and equipment will be needed with appropriate supplies and extraction where required.
- It would be ideal to include loose planning tables if space permits.

## **2.11 Pneumatics, Electronics & Control Technology**

Ideally this should be adjacent to any Workshop/Studios as it may need to make joint use of the extraction systems. This area can be 85 square metres. The rest of the service requirements are the same as those specified for the Workshop/Studios. A balance between loose tables and multi-purpose light weight benches is desirable. A range of floor mounted, pedestal mounted and side bench mounted machinery and equipment will be needed with appropriate supplies and extraction where required. It would be ideal to include loose planning tables if space permits.

## **2.12 Computer Aided Design / Computer Aided Manufacture**

This should form the central hub of the suite of rooms and be readily accessible from the other four teaching spaces. The floor could be carpeted, rather than non-slip. Provision for a minimum 20 computer workstations with network points will be required with benching and adjustable seating to match.

Networked printing in both mono and colour are essential and it is desirable to have 3D printing available. An inter-active whiteboard and data projector would be an essential need. Adequate ventilation is needed here as significant residual heat can be created by this number of computers. A range of CAM equipment needs to be provided including separate external ventilation for Laser Cutters. In addition to fixed benching a combination of loose planning tables and light weight benches will be needed for practical work. Coat and Bag storage will be needed adjacent to the entrance.

## **2.13 Food Technology**

This will need to be planned with due consideration given to health and hygiene. Although there isn't a legal requirement to meet the needs of the Food Safety Act it would be considered best practice to follow these guidelines where possible especially if a catering element was to be included. The size of these spaces is listed earlier but 120 square meters would be a minimum.

External access and service road for delivery would be desirable for the installation and exchange of cookers. Services would need to include gas with isolation, and hot and cold water. Single phase electricity with adequate 13 amp sockets in numerous positions are required along with an emergency stop system. Network points, data projector and inter-active whiteboards are essential. Durable non-slip flooring is needed that can be easily cleaned. Coat hooks for aprons and bag/coat storage is needed close to the entrance, along with at least one dedicated hand washing facility, an alternative fire escape is also needed. Fixed benching that has a non-permeable, heat resistant and moisture resistant surface is essential, this needs to include vertical splashbacks either in the same material or in ceramic tiles.

There is the need to create 10 workstations each allowing for two pupils to work together. Each station needs a sink and cooker. The type of cooker to be installed should be determined later but could be gas, electric or dual fuel. This has implications for service provision. Additional loose tables would be desirable. Storage for ingredients and for chilled finished products will need to be provided. Also the provision of washing machine, tumble dryer and dishwasher will need to be considered. It would be desirable to include facilities for commercial catering and a teacher demonstration area.

## 2.14 Textiles Room

This should be a minimum of 85 square metres. Services would need to include hot and cold water. Single phase electricity with adequate 13 amp sockets in numerous positions are required along with an emergency stop system. Network points, data projector and inter-active whiteboards are essential. Durable non-slip flooring is needed that can be easily cleaned. Coat hooks for aprons and bag/coat storage is needed close to the entrance, an alternative fire escape is also needed.

Specialist fixed side benching is needed to accommodate 10 sewing machines with adjacent power supplies. This benching needs to be at seating height. Additional fixed side benching at standard height is also needed. Large tables to accommodate fabric are needed in the centre of the room. This can be fixed or loose. A large “Belfast” sink is needed with hot and cold supplies and splashback. Large storage units are needed either within the room or in the adjacent store room for fabric and other materials.

## 2.15 Art

Teaching and learning in art and design covers a wide range of activities, for example 2D and 3D work, ceramics and printmaking. Some schools deliver photography, media studies, graphics and textiles through the art and design department, and each of these subjects requires some specialist facilities.

A dedicated exhibition spaces should be considered to enhance pupils arts provision, they offer students a chance to display their own art work in a high quality environment, to see work by other artists, and to learn curating skills. Exhibitions can offer wider learning across the curriculum, not just in art and design. Students can develop enterprise skills through marketing exhibitions and developing audiences.

Daylight is the most effective light source and therefore Art rooms should be located on the ground floor to enable direct access to a sheltered outside area for large scale projects and 3D displays, with consideration to receiving bulky deliveries of Art supply. The rooms should where possible have high ceilings to increase the utilisation of natural sunlight (large glazed areas results in a greater area for reflectance, white painted walls can help increase the quality of light in an art room)

Horizontal or vertical non-aluminium blinds should be fitted to windows to control light levels

Where Fluorescent lighting is fitted natural light triphosphor tubes should be specified with at 500 lux.

Floors should be slip resistant, washable and not too dark

As a minimum the rooms should be equipped with the following infrastructure though some will also require a range of specialist equipment such as kilns and screenprinters:

- ceiling mounted projector
- interactive whiteboard (IWB)
- Rooms should have open shelving for class resources, lesson materials and pupils' exercise books/folders.

2D Art Rooms (Drawing, Painting and Print Making)



Calculations for the size of each Art rooms are based upon a range of between  $34\text{m}^2 + 1.5\text{m}^2$  per pupil ( $79\text{m}^2$ ) and  $40\text{m}^2 + 2.1$  per pupil ( $103\text{m}^2$ )

### 3D (Ceramics, Sculpture, Pottery)

Calculations for the size of each Art rooms are based upon a range of between  $40\text{m}^2 + 2.1\text{m}^2$  per pupil ( $103\text{m}^2$ ) and  $43\text{m}^2 + 2.4$  per pupil ( $115\text{m}^2$ )

In areas where clay work takes place, it is essential that the floor can be thoroughly wetted to dampen clay dust. There should be a drain. Tiles or heavy duty, slip resistant vinyl are suitable surfaces in these areas. However, tiles can be a noisy surface when chairs or furniture are moved around

Art rooms may need specialist equipment such as a pug mill, potter's wheel or kiln and professional advice is needed about locating these and ensuring their safe operation. Certain art activities need good levels of ventilation, and need to be assessed under COSHH regulations

If Art rooms are on an upper floor they should be sufficiently load-bearing to accommodate heavy equipment, such as a kiln. Kilns should be located in a separate room with good ventilation

Supplementary teaching spaces are recommended for resource and non teaching spaces.

ICT is integral to the teaching of art and design and related subjects, such as media studies, through computer aided design programmes and publishing, film-making and animation software. Access to ICT in art and design rooms is therefore important for both teachers and learners. It is vital that cabling and computer hardware and software programmes are of high quality, and in some instances of industry standard, and that they can be frequently upgraded, especially where the Creative and Media will be delivered.

### Projectors and whiteboards

- Spaces are needed for whole and small group teaching and individual study. There should be space for the intended range of activities without conflict
- Space is needed for a staff base and for technical preparation
- Plan for zoning of activities, for example separating clean and dirty activities
- Each zone of activity has its own storage needs. Space is needed for small and large scale art materials, tools, teaching materials, objects, books and resources, ICT equipment, student portfolios, and finished and unfinished work. Secure and safe storage may be needed for hazardous chemicals  
Each room needs at least  $15.5\text{m}^2$  storage space
- Photography will probably require a darkroom and studio area, while screen printing may take up extra space

## 2.16 Fittings, furniture and equipment

A minimum amount of fixed furniture allows for re-arrangement for different activities. These may need tables of different heights, varying between 85 cm for standing and 70 cm for sitting. Removable screen printing surfaces can be used on standard tables, if space is limited

- Furniture needs to be light but strong, to endure frequent re-arrangement. Stackable chairs may be best for comfort and mobility. Stools with a backrest are suitable for standing-height work
- A flexible approach to storage includes mobile units, transferable trays, bins, crates and trolleys, as well as store rooms with deep shelves suitable for large paper sizes and portfolios
- Perimeter benching and storage

### 2.17 Sinks

Hot and cold water should be provided to art room sinks. These should be large enough for use by several students at once and deep enough to place a bucket under the taps. Self-closing taps reduce danger of flooding and wastage of hot water. Sinks need double drainage boards and an easily removable trap to avoid blockages from clay silt. e.g. bottle traps. They need to be spread around the room

- The wall height behind sinks needs to be high enough for a splashback
- Specialist sinks are needed for textiles and photography

### 2.18 Video Conferencing

It is the aim of the Council to have at least one dedicated Video Conferencing facility within each Secondary school by 2016 in order to access the broader curricular and in particular opportunities afforded by working with the 'global' educational institutions.

### 2.19 ICT Bases

2.19.1 Flintshire County Council has no preference for whether provision of a separate dedicated ICT Room is required or whether it is provided at the point of learning (within the classroom). Sufficient capacity and facility is most important to enable appropriate teaching and learning.

Integrated and flexible ICT provision will include access to technology, as appropriate for all learners, including provision for intergenerational and adult learning so the location of ICT equipment and access arrangements will need careful consideration.

2.19.2 Minimum requirements:

- a. Schools will be "wireless"
- b. One projector point per teaching area and supporting infrastructure.
- c. Each classroom and hall to have a pc driven display device.
- d. Sufficient power provision to the school and all power supply to IT equipment to be surge protected.

The minimum bandwidth standard should be in compliance with Welsh Assembly Government recommendation (currently 8 Megabytes).

In addition, WAG recommend that there is provision of pupil access to computers that meets the following standard or ratio:

- 2.19.3 Schools will have a suitable capacity server located in a secure, but easily accessible and appropriate and ventilated or air conditioned space, with file restrictions in line with Council criteria.
- 2.19.4 Performance assessment of IT equipment should be carried out on a 2 year cycle.
- 2.19.5 In the long term FCC foresees no requirement for the provision of separate, dedicated ICT
- 2.19.6 Rooms on the basis that ICT provision should be provided at the point of learning (within the classroom).
- 2.19.7 Where there are dedicated ICT rooms these will be maintained until such time as alternative use can be identified. Ideally the dedicated IT suites should be located on the Northerly side of the building.
- 2.19.8 Each room should have access to wireless notebook facilities. A sufficient supply of notebooks should be available from a mobile station linked to a wireless colour laser printer / scanner and with broadband access to all machines and the teacher's PC. Notebook and PC software should be provided for word processing, desktop publishing, power point and for graphic manipulation.
- Sufficient power sockets to accommodate a range of equipment.
- 2.19.9 By 2016 the LEA aspiration will be for each pupil to have access to their own PC or similar device in all schools.
- 2.19.10 All power supply to IT equipment to be surge protected
- 2.19.11 All schools to have a suitable capacity server, with file restrictions in line with Council criteria
- 2.19.12 Wireless optical mouse and keyboard, can be passed around the room for pupils to use with the interactive whiteboard
- 2.19.13 Webcam for making video clips.

## 2.20 Halls and Studios

- 2.20.1 Schools should have at least one school hall on site to provide for whole school collective worship, physical education, dance, drama, music, school performances and community gatherings.
- 2.20.2 Halls and studios are unfurnished spaces that have particular height, finish, lighting, acoustic criteria and blackout facilities where necessary. The indoor space should have a floor which is easily maintained and suitable for bare foot work and most importantly must not be slippery. The floor should be marked with inlaid line markings to define the working area to prevent collision with walls etc together with markings for games activities. The hall should be well lit, and appropriately heated and ventilated.
- 2.20.3 Ideally the area should be lit as much as possible from natural daylight, though where illumination is necessary this should be fluorescent lighting maintained at a luminance of 350 lux with a maximum glare index of 19.
- 2.20.4 120m<sup>2</sup> is the minimum size for reception and Key Stage 1 (KS1) and 140m<sup>2</sup> for KS2 sufficient for PE and dance (ideally with a sprung floor and ample wall space to accommodate fixed climbing frames and apparatus for both Foundation Phase and KS2. Ideally the walls should be free of protuberances (e.g. radiators,).
- 2.20.5 The height of the hall or studio should not be below 5.2m to accommodate games activities.
- However, where the height of the hall or studio falls below the desired 5.2m no alteration to the fabric of the building will be made. Ideally the hall should allow for the possibility of climbing ropes suspended from a track way attached to ceiling trusses.
- 2.20.6 Where the hall is used for dining it will require an adjacent servery and kitchen and separate provision should be made for the storage e.g. tables, chairs. Ideally this area should be separate from that required for the storage of PE and gymnastic equipment.
- 2.20.7 Halls are unfurnished spaces that have particular height, finish, lighting, acoustic criteria and blackout facilities where necessary. The indoor space should have a floor which is easily maintained and suitable for bare foot work. The hall should be well lit, and appropriately heated and ventilated.
- 2.20.8 In any secondary school there should be at least one hall sufficient in size to accommodate at least half of the school at any one time for assemblies, examinations, public performances, parents evenings and community events. The minimum recommended area is 600m<sup>2</sup> + 0.3m<sup>2</sup> per pupil place.
- 2.20.9 The school should include a 4 court sports hall, which should be designed to Sport England's specification including the critical minimum dimensions for 4 badminton courts of 18m x 33m with a height of 7.6m
- 2.20.10 An activity studio of at least 145m<sup>2</sup> with a minimum internal width of 10m and a height of 3.5m and a sprung floor to comply with BS7044 part 4.

## 2.21 Performance Teaching Areas

There should be at least 1 music, drama or media space in each secondary school.

Music, dance, drama and media studies will require spaces with appropriate acoustic properties and black out facilities where necessary with access to a hall to accommodate for performances with audiences larger than a class group

These spaces may also be suitable and popular for community use.

### 2.21.1 Music

2.21.2 Music in the National Curriculum has a strong practical emphasis which involves pupils in performing, composing and appraising. It includes a mixture of whole class, group and individual activities which require an unusually wide range of different spaces if teaching and learning are to be of the best quality.

Performances take place informally within the class or formally to audiences of varying size.

2.21.3 Advances in ICT and the growing popularity of music technology courses have changed the way teachers and young people expect to play, compose, listen to and record music. Music rooms now require extensive ICT equipment, electronic instruments and opportunities to record, edit and mix sounds. Secure but accessible storage is also essential for the wide range of musical instruments currently used.

The positioning of music teaching rooms is crucial within the whole school because of acoustic needs. The music department should not be disturbed by external noise, such as a busy road or playground, and should not disturb other activities with noise generated from the music rooms. The two main issues are sound quality and acoustic insulation. Students need to be able to listen to, record and appraise music without interruption.

A music suite on one floor is preferable as it facilitates staff and pupil's use of shared spaces and makes supervision easier. Instruments and recording equipment can be shared more effectively and supplementary teaching spaces such as ensemble rooms or recording/control room can be accessed by more than one class. It is also easier to co-ordinate the lessons delivered by peripatetic music staff with the rest of the music department.

The music suite can either be integrated into the whole school, ideally as part of an arts grouping, or developed as a separate music block with its own access.

## 2.22 Location of Music Suite

Access and security are important issues, given the fact that the music department will be regularly visited by a team of peripatetic staff, used by students outside lesson times and also hired by community groups. Security is also paramount as there will be many valuable instruments owned by both students and the school in the department, together with electronic keyboards, computers, expensive recording studio equipment and a range of sound systems.

It can be advantageous to have the music suite near to the school hall as it can then be easily accessed for performance and rehearsal activities. **However, there must be adequate acoustic insulation between all music teaching rooms and the**

hall, as it may be used for external examinations and other purposes which require a quiet environment.

### 2.22.1 Teaching Spaces

The number of music rooms will obviously be dictated by the number of teaching periods in KS3 and the number of students choosing music as an option in KS4 and in the sixth form; including music technology courses.

Music teaching needs:

- whole-class teaching spaces  
a series of small rooms for group work, instrumental lessons and practice. As an ideal there should be a practice room available for each visiting teacher so that classroom work is not compromised. If possible, some rooms should be dedicated drumming rooms or 'plug and play' rock studios
- one or more recording rooms adjacent to teaching spaces
- display and storage areas, especially for instruments
- a staff base, for full-time and peripatetic teachers

In order to deliver music effectively, it is desirable that every school should have:

- a music classroom of 60 – 70m<sup>2</sup> which will accommodate up to 30 pupils involved in a range of practical and non-practical activities. For good acoustics, avoid classrooms that are square in plan and section. Long narrow spaces and irregular shapes, eg. "L" shaped rooms, reduce flexibility and are unsuitable for practical activities. A room ceiling height of at least 2.7m is desirable in all rooms, including group rooms.
- a larger classroom of 85-91m<sup>2</sup> which will also serve as a performance/recital base for a range of both class and extended curriculum activities.

**NB. It is essential that every music department has at least one room of this size.**

Ideally, there should be four small supporting rooms for each classroom, so that a class can split into five groups and can also facilitate specialist instrumental/vocal lessons. These should be integral or adjacent to the full-size classroom, but additional to its floor space. Small rooms should be between 6 and 8m<sup>2</sup>. 6m<sup>2</sup> allows for an instrumental lesson with a piano and three students.

An intermediate size room of 20–25m<sup>2</sup> allows for small ensemble work of up to 12 pupils. This intermediate size room may also be designated as the main instrumental base available throughout the school day for peripatetic teaching. All doors should have windows, as individual teaching often takes place in peripatetic music lessons.

Square or long narrow plans in small group rooms should be avoided. At least one wall should be angled at between 5° and 10° to promote sound diffusion and preclude standing waves and flutter echoes

- Recording studios are an essential part of the music suite and should allow visual as well as audio contact with main teaching spaces. Music technology lessons may require several students to work together or watch demonstrations in the recording room and a minimum space of 15m<sup>2</sup> is



therefore desirable. The recording of pupils' compositions and performances is an integral part of the music curriculum and is also used for assessment purposes at GCSE and Advanced level.

- It is desirable to have a teachers' base for meetings, preparation and storage. This room can also double as an office for peripatetic staff and therefore, it would be an advantage to have a secure store attached for pupils' records and expensive instruments or equipment.
- Storage areas need to be designed for materials and instruments used in whole-class teaching and for instruments that students can use and access individually without disturbing teaching. Security and safe handling of instruments should be considered carefully in the design of storage spaces

### 2.23 Acoustics

An appropriate acoustic environment is more important in music accommodation than in most other areas of the school. The two main issues are sound quality and acoustic insulation. These should take account of the quality of sound within the music space and the sound insulation of the space from other sources that could cause disturbance.

**It is essential to take specialist advice on acoustic matters at an early stage in the design process.**

- The location of the music department should minimise disturbance from external sources of noise, and use non-teaching areas, such as storage rooms and corridors as sound buffers between music-making spaces.
- Specialist advice should be taken over the construction of walls, doors, lobby spaces, external windows, pipework and the sealing of openings in walls for essential services, to ensure the best possible insulation and sound quality
- The quality of sound in a music room should be an appropriate balance between fullness of tone and clarity. This is achieved by considering both room shape and proportion and the distribution of reflective and absorptive materials. It is best to use either carpet or ceiling tiles (not both) and to distribute absorptive material about the vertical wall surfaces of the room. Where carpet is used, the ceiling should have a hard reflective surface.

### 2.24 Storage

There are two main types of store rooms.

1. **Classroom Store** - This may house worksheets, files musical scores, CDs, books, files, classroom percussion instruments and TV/video equipment stored on trolleys.
2. **Instrument Store** – the shape and capacity of the room should allow for the full range of orchestral instruments ranging from large double basses and tubas to numerous smaller violins, flutes, clarinets etc. Some will be from the school instrument stock and others will change daily according to the range of instrumental lessons taking place. Correct shelving is essential to allow pupils to manoeuvre large instruments comfortably with smaller instruments kept at eye height and heavy instruments around waist level.

## 2.25 Lighting

- Daylight is the best light source, although windows reduce sound insulation and rain on rooflights can be noisy
- Smaller group rooms are often internal but wherever possible daylight from windows is preferable.

## 2.26 Furniture and Equipment

- Flexible use of space within the music room is essential for the successful delivery of the music curriculum. There should be no fixed furniture in a classroom, other than around the perimeter. All classrooms should provide a free space for warm up activities or singing, where pupils are seated in a circle.
- Furniture needs to be easy to move to allow for different activities. Tables and chairs should be light but robust and easily stackable.
- Design and provision of shelving and cupboards is important for storage and display of instruments, headphones and other materials and equipment. The positioning of keyboards and headphones is a major consideration,
- A shelving system for instruments should have strength and flexibility
- Demountable staging is useful to create a small performance area in a larger music room. Furniture screens can also change the atmosphere and divide up the room for different activities, including performances
- Movable screens and fixed pin boards can be used for display and have soft, absorbent surfaces that can be part of the acoustic treatment of the music room
- Mirrors in practice rooms allow students to check posture and positioning when singing or playing instruments
- Practice room doors need windows to ensure safety of staff and pupils during individual music lessons
- 2–4 loud speakers for audio systems are needed in the main teaching space, ideally at high levels near the room corners. These should be linked to the recording room, to allow recorded music to be played back to a class

## 2.27 Electricity

- The main electrical needs come from the use of ICT and electronic keyboards and from recording students' performances
- In a main teaching room, there should be at least 16 twin socket outlets for keyboards and a further six twin socket outlets at the teaching base. Further sockets will be needed for ICT equipment for students. Some outlets for students can be around the perimeter above worktop height and others installed as floor mounted outlets to allow keyboards to be used in the central area and avoid trailing cables
- Electronic keyboards require a low voltage supply, provided by plugs with integral transformers or by a permanent low voltage installation

- Group rooms need at least two twin socket outlets on opposite walls
- Recording rooms require about eight twin socket outlets close to the console. Music technology courses and the Creative and Media Diploma require high specification recording equipment.

## 2.28 Dance and Drama

Each school should have a facility that would permit the teaching of drama as well as for performance to a public / school audience.

It may well be multi-purpose to allow for film projection / public speaking / school and / or public gatherings, etc.

Location

Positioned near to parking areas to allow for the facility to be used beyond the school day and for full access.

Exterior doors to all sides for entrance and exit and to allow for full access

Size of room

The main seating area should be able to accommodate sufficient people to conform to fire, health and safety regulations. A suitable auditorium for a school of 700 / 800 pupils should accommodate a minimum of 300 / 400 individuals when seated.

There should be a versatile 'stage' area, possibly with a traditional proscenium arch. This may be raised above the general floor height or, alternatively, be composed of purpose-built, demountable rostra. In the case of the latter, consideration should be given to the provision of temporary storage areas. The stage area should have access from within it and additionally from the main auditorium. Full theatre-style curtains should be provided.

## 2.29 Equipment

- a. Full lighting facilities should be available within the main auditorium and also the stage area. This will require the provision of lighting rigs, mixer control desks and / or rooms, suitable power supplies to be fitted.
- b. Full sound facilities should be available within the main auditorium and also the stage area. This will require the provision of sound / speaker systems that integrate with (e i) above. Additional PC facilities will also be necessary. The school may also wish for this to integrate to a plinth for use by outside speakers and for presentations.
- c. That there should be a supply of demountable rostra to allow for pupils working in the main auditorium as well as within the stage area.
- d. Ttheatre-sized projection screen should be fitted that will allow it to be lowered for film (front or back projection). This will require additional projection equipment linked to the sound and lighting equipment and suitable interface.

- e. One theatre is sufficient, however, there will also need to be access to at least one smaller room nearby. This / these could be designated as (a) 'practice room (s)', doubling up as an additional teaching space(s) as necessary.
  - i. These rooms should have additional storage within them. This is most likely to be demountable steel cabinets.
  - ii. 'Green room' changing facilities should be provided (two : male / female) and a suitable gathering area for pupils waiting to enter the main staging area. In addition, changing areas should be provided with access to mirrors, washing facilities and toilets,
  - iii. Access to the main auditorium should include a 'foyer' area.
  
- f. Undesirable aspects
  - i. The location should not present difficulties for members of the public accessing it out of school hours.
  - ii. There should be full access for those with additional needs.
  - iii. The nature of the area means that it generates considerable movement and noise. It should be positioned where it is as unobtrusive as possible but still allowing for day-to-day access and policing.
  - iv. Public toilet facilities need to be sited away from 'Green Room' facilities
  
- g. Types of flooring
  - i. The main auditorium / stage area should be versatile enough to be used for dance and drama. Ideally, a sprung timber floor is ideal for the main auditorium but many schools are looking for a composite flooring compound to deal with pupil traffic as well as being versatile enough for day-to-day use. It should be of a dark colour to prevent reflection from theatre lights.
  
  - ii. Walls :
    - With windows : suitable heavy curtains to provide a good quality black-out. Ambient, house lighting to be provided
  
    - Without windows : Ambient, house lighting to be provided
  
    - Dark coloured, matt walls.
  
  - iii. Seating :
    - a. Permanent seating can be provided that best accommodates the needs of the space :
    - b. Retractable seating would allow for the main auditorium to be used as a teaching / performing space and make it suitable for music / drama / dance
    - c. Auditorium seating would provide for a theatre-style environment and clear focus on a raised proscenium arched stage area, but would not allow for a floor area to be used in between performances / presentations.
    - d. Retractable benches would provide for more seating in a specific area than retractable seating. It is more suitable for a pupil audience than it would be for an audience of adults.

- e. Lecture theatre seating (with shelves to accommodate note-taking) would reduce the number of total seats and would be better suited to an additional, smaller lecture theatre space within the school.

iv. Storage

- 1. Green Room areas would require storage facilities for costumes / makeup, etc. Washing / showering facilities may also need to be provided.
- 2. Storage of properties, scenery, lighting and sound equipment is all required. This should be provided adjacent to the stage area but not within it. In addition, access and security need to be considered.

v. Acoustics

- 1. Obviously, the acoustics of the stage area and main auditorium would be considered.

vi. Insulation

- 1. See (h iii) and (i ii) above.

### 2.30 Media

- h. Although media studies tends to be taught in classrooms at KS3,4,5, the nature of the subject requires additional facilities in order that the requirements of the specifications can be met at KS4 / 5.

- i. Access to AV equipment

- i. Within the specifications for English (see above), there is sufficient provision to provide for

- 1. projecting of DVD / WMV / MPEG resources
- 2. use of TV, radio or other sound / moving picture resources
- 3. desk-top publishing, graphic manipulation, presentational devices (e.g. powerpoint) as part of general teacher / pupil work

- ii. In addition, there should be a designated area for film / sound work. Ideally, this would require

- 1. a classroom-sized area, with a separated, partitioned section to provide an area for filming / sound work. The main area would be acoustically soundproofed (walls and ceiling), carpeted and without windows. It would require extensive provision of power sockets and additional equipment (digital cameras, stands, mobile lights). There would also be a requirement for a small allocation of desks, chairs.
- 2. A partitioned area with an observation window / door linking both areas (minimum size of window 8' x 4') and suitably soundproofed. The two areas would be linked by intercom / microphones / speakers. The partitioned area would house three PCs with additional full editing facilities (two editing desks, sound equipment, mixer, appropriate software). The area under the observation window would be benched and seating provided.

There would need to be adequate storage facilities (shelves and lockable steel cabinet) within this area.

3. All lighting would be controllable via dimmers.
4. There should be a curtain runner on three sides of the main area with black theatre-style curtains fitted.

## Support Spaces

In support of music, an ensemble room, practice rooms totalling about 4 for each timetabled music room.

## 3 Internal Non-Teaching Spaces

Internal non teaching spaces include rooms such as:

### 3.1 Storage

3.1.1 Storage areas are broken down in to teaching storage and non-teaching storage as follows:

#### 3.1.2 Teaching Storage

- a. Pupil personal belongings

The area of storage must include coat and bag storage for all pupils Coat and bag racks to be located in separate cloakrooms or in corridors though ideally in circulation routes that are not dead ends as specified in BB99 Part C.

- b. Full height lockable storage

This specifically relates to storage above 2.1m high, whether in the form of furniture units or walk in stores and will count as non teaching area. There should be at least 1m<sup>2</sup> for every classroom easily accessible by staff (but not pupils), for resources such as valuables or hazardous items.

#### 3.1.3 Specialist walk in stores

For shared curriculum resources at least two 6m<sup>2</sup> store rooms in any school ideally accessed from the corridor or shared teaching area.

#### 3.1.4 Indoor/outdoor PE storage

Opening on to the long side of the main hall and ideally also accessible from outdoors. The storage area should be a minimum of 10% of the area of the hall and include shelving for the storage of gymnastic equipment and other games resources. The entrance to the storage area should be wide enough to enable safe movement of equipment.

### 3.1.5 Non- teaching storage

Other non-teaching storage includes:

- a. Secure storage – for valuable items such as personal records located adjacent to or within close proximity of the school office.
- b. Storage for mobility equipment and aids for disabled pupils
- c. Central storage of book stock such as paper and pens.
- c. Lockable storage for maintenance equipment and hazardous substances for cleaners and caretakers.
- e. Chair and table store – when the hall is used for dining this may be positioned between the kitchen and hall and can double up with the servery

## 3.2 Staff and administration

3.2.1 The staff and administration area sits mostly within the non teaching area. In Flintshire, schools should have an office for the Headteacher (of at least 10 m<sup>2</sup> ) and a separate office for school administration.

3.2.2 Medical Inspection room – (M.I.) this room may also be used by visiting therapist or other support for pupils with SEN and disabilities.

3.2.3 Work and social space for teaching staff – usually this takes the form of a central staff room and will include a designated ICT area and free tables for laptop and general work.

3.2.4 Schools should also have a separated designated PPA workroom with ICT access which can accommodate a minimum of two people.

3.2.5 Storage units for teachers' personal possessions should also be included within the staffroom. A proportion of these storage units should be set aside for use by visiting staff.

## 3.3 Staff and administration area – includes offices, main office, secure reception area and reprographic facilities.

3.3.1 Offices – to be utilised by other senior teaching staff such as deputy or assistant heads who may need privacy for interviews or pastoral support.

3.3.2 A main office to be utilised by administrative staff with storage space for confidential records and linked to reception.

3.3.3 A secure reception area – this should provide access to the rest of the school and be adjacent to the recognised main entrance.

3.3.4 Reprographic area – this will be located in a separate room from the main office (but not in a circulation area) and may include ICT print services. The room should be adequately ventilated.

- 3.3.5 A dedicated, multi-functional meeting room, within the zoned entrance area, so that it can be used by visitors without them entering the main school. This room will accommodate:
- a. Parental meetings
  - b. Community learning programmes
  - c. Multi-agency meetings
  - d. Governors Meetings
  - e. INSET meetings
  - f. Interview
- 3.3.6 Caretaker's office – where permissible office facilities will be included within the storage area but will not be provided independently.

### 3.4 Staff Room

- 3.4.1 There is no minimum requirement for the provision of a staff room. The Authority however recognises the benefits that grouped areas provided and therefore where not currently provided will seek to locate space for the provision of a suitably sized social and dining area for staff. This will include a kitchen area with: -
- a. Sink
  - b. Fridge
  - c. Dishwasher
  - d. Zip boiler
  - e. Storage
  - f. Staff room to be sited close to the main entrance.
- 3.4.2 The size of a school staffroom will be determined by the overall capacity of the school.

Additionally, the pupil age range of the school should be taken into consideration and the related staffing requirements e.g. Foundation Phase staffing ratios.

### 3.5 Learning Resource Areas

- 3.5.1 Learning resource areas are generally spaces used for informal learning and shared by the whole school. The total area for this category of space should include
- at least one Library ( $10\text{m}^2 + 0.05\text{m}^2$  for every pupil place)
  - at least one Group Room ( $2\text{m}^2 + 1.1\text{m}^2$  for every pupil place)<sup>1</sup>

<sup>1</sup> These rooms are usually SEN resource areas and may accommodate between 6 and 15 pupils.

- 3.5.2 Where a school currently has no provision of a small group room, but where a classroom below the WAG minimum of 15 pupils is present, the room will be re-designated as a small group room.

### 3.6 Library

- 3.6.1 Schools within the Authority must have at least one designated library. In schools where the library function has been dispersed into several areas within the school,



attempts will be made to provide a central designated library to assist with optimisation of space.

3.6.2 The library should be of sufficient size to accommodate a class of 30 pupils seated on the floor (carpeted) and also include:-

- Appropriate book storage units
- Soft informal seating
- Some work tables/chairs (for a group of 8 pupils)
- ICT area including provision for minimum of 2 computers – one dedicated to support library management system, one for pupil use. (Wireless facilities would also support the use of additional laptops).
- Ceiling mounted projector & whiteboard

### 3.7 Staff Toilets

a. These should be a separate facility for the first 15 full-time equivalent members of staff and another one for every further 15 (not including catering staff). In schools with less than 120 pupils with a majority of female teachers an option to make one of the toilets unisex.

b. Accessible Toilets

These are intended for disabled pupils, staff or visitors. Provision counts towards the total staff provision, though will not count towards pupil provision.

### 3.8 Changing Rooms

Where changing rooms are not currently provided within schools due to a shortage of space this will not be seen to be detrimental to educational provision.

However, whilst this is not a statutory requirement at this moment in time consideration should be given to the provision of separate changing rooms for boys and girls at a size ratio of 0.5m<sup>2</sup> per pupil. The changing rooms should include bench seating and facilities to hang items of clothing.

### 3.9 Kitchen Facilities

3.9.1 Not all schools prepare hot food, though all schools require a kitchen area. The kitchen area must include facilities for cold storage, preparing food and drink and washing up.

3.9.2 The size of the kitchen facilities is based upon the number of pupil places.

3.9.3 For kitchens preparing only cold food and drink the area is calculated as 0.1m<sup>2</sup> per pupil. Therefore a school with 210 pupil places should have a combined kitchen area of 21m<sup>2</sup>

Where the school does prepare hot food the kitchen area should also include;

- Sufficient area and facilities for safe preparation & cooking of food
- Toilets and Personal care for catering staff including a changing area
- Cook's Office
- Storage area suitable for the storage of cleaning materials in compliance with Chemicals Or Substances Hazardous to Health (COSHH) regulations

- Separate secure storage for dry goods
- Provision for both refrigerated and frozen goods
- Sufficient circulation space for acceptance of goods and removal of waste
- Provision of a servery

3.9.4 For kitchens preparing hot food and drink the area is calculated as  $15\text{m}^2 + 0.15\text{m}^2$  per pupil. Therefore a school with 210 pupil places should have a combined kitchen area of  $46.5\text{m}^2$

### 3.10 Circulation

3.10.1 Circulation areas include corridors and reception areas, though may also be within the teaching space where the school is 'open plan' in design.

3.10.2 Building Bulletin 99 stipulates that a corridor leading to two or more teaching spaces should have a width of at least 1.8m and shorter corridors 1.2m.

3.10.3 Due to the practicality of increasing corridor widths in schools of particular designs it would be cost prohibitive to increase widths in line with new build standards. In instances where the circulation of pupils has been found during suitability assessment to be compromised this needs to be managed by the schools (informal one-way, staggered times).

## 4 External Areas

### 4.1 Site Security

4.1.1 All schools will be fully secure to ensure safety to pupils and staff from external influences. This may require a 1.4 metre palisade fence line around the curtilage of the property. All properties will have lockable gated entry point with separate vehicle and pedestrian entrances.

4.1.2 Where possible vehicle and pedestrian segregation will be used up to the main or recognised front entrance.

### 4.2 Entrance Paths and Roads

4.2.1 All school sites will have clearly defined road markings and speed restrictions.

### 4.3 Car Parking and Drop Off

4.3.1 The number of car parking spaces required will vary in line with the size and use of the school. The minimum requirement is to ensure compliance with Local Planning Guidance Note No 11 – Parking Standards.

\* For Primary Schools provision must also be made within the curtilage of the development for the safe setting down and picking up of children, preferably by use of circulatory systems.

## 4.4 Playing Fields

- 4.4.1 Section 77(7) of the Schools Standards and Framework Act 1998, which is designed to protect school playing fields, defines 'playing fields' as any land in the open air which is provided for the purposes of physical education or recreation, other than any other prescribed description of land.

Schools will have the following allocated areas sized in accordance with their designed capacity. This will be in accordance with Building Bulletin 99 (BB99):

- Sports pitches
- Games Courts (hard surfaced)
- Soft informal and social area
- Hard informal and social area
- Habitat areas

For a sports pitch or games court to qualify towards the minimum requirement it should meet the following criteria (BB85 School Grounds a Guide to Good Practice Section E)

- Suitable for the playing of team games
- Laid out for that purpose
- Capable of sustaining team sports for at least 7 hours a week during term time

The facilities should also cater for a straight running track of 60-80 metres in length with a width of 6 to 8 lanes together with the provision of a long jump pit (confirm with Alan and check with Health and Safety).

Schools will have a flexible pitch appropriately marked with facility to insert goal posts of differing sizes to suit a variety of team sports including football, rugby, and hockey.

In instances where the playing fields are found to be too small in area, but where there is an over provision of car parking against Local Planning Guidance No.11 the allocation of this area will be reduced in the first instance to meet the shortfall in sufficiency of the external playing fields.

Both grassed and hard play areas should have sufficient margin between the designated play area for a 'run-off' area. The hard play areas should be marked for both traditional games as well as a variety of interesting playground markings for recreational play by children in break times.

Blank hard surfaces provide little challenge or interest to young children. It would therefore be appropriate to consider the introduction of apparatus of an adventure type such as concrete drain pipes, stepping stones, obstacle courses and other cognitive play areas not designated for PE activities. Such provision encourages creative play and enhances the environment which will be a source of great interest and benefit to young children

Consideration should also be given to the provision of providing walls and / or rebound surfaces where children can be engaged in developing ball handling skills and hand-eye co-ordination.